E 3510-22-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648-XC115]

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to New England Wind, Phase 1 Park City Wind Marine Site Characterization Surveys

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice; Issuance of an Incidental Harassment Authorization.

SUMMARY: In accordance with the regulations implementing the Marine Mammal Protection Act (MMPA) as amended, notification is hereby given that NMFS has issued an incidental harassment authorization (IHA) to Park City Wind, LLC (Park City Wind) to incidentally harass marine mammals during marine site characterization surveys offshore of Massachusetts south through Long Island, New York.

DATES: This Authorization is effective from September 1, 2022 through August 31, 2023.

FOR FURTHER INFORMATION CONTACT: Jenna Harlacher, Office of Protected Resources, NMFS, (301) 427-8401. Electronic copies of the application and supporting documents, as well as a list of the references cited in this document, may be obtained online at: *https://www.fisheries.noaa.gov/action/incidental-take-authorization-park-city-wind-llc-new-england-wind-project-phase-1-marine*. In case of problems accessing these documents, please call the contact listed above.

SUPPLEMENTARY INFORMATION:

Background

The MMPA prohibits the "take" of marine mammals, with certain exceptions. Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq*.) direct the Secretary of Commerce (as delegated to NMFS) to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are proposed or, if the taking is limited to harassment, a notice of a proposed incidental harassment authorization is provided to the public for review.

Authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for taking for subsistence uses (where relevant). Further, NMFS must prescribe the permissible methods of taking and other "means of effecting the least practicable adverse impact" on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stocks for taking for certain subsistence uses (referred to in shorthand as "mitigation"); and requirements pertaining to the mitigation, monitoring and reporting of the takings are set forth. The definitions of all applicable MMPA statutory terms cited above are included in the relevant sections below.

Summary of Request

On December 17, 2021, NMFS received a request from Park City Wind for an IHA to take marine mammals incidental to marine site characterization surveys in waters offshore of Massachusetts south through Long Island, New York. The application was deemed adequate and complete on March 25, 2022. On May 27 2022, NMFS published a proposed IHA for public comment (87 FR 32123). Park City Wind's request is for take of 16 species of marine mammals, by Level B harassment only. Neither Park City Wind nor

NMFS expect serious injury or mortality to result from this activity and, therefore, an IHA is appropriate. There are no changes from the proposed IHA to the final IHA.

Description of Planned Activity

Overview

Park City Wind surveys are phase 1 of the New England Wind project located in the BOEM Lease Area OCS-A 0534. The New England Wind project is comprised of Phase 1 Park City Wind and Phase 2 Commonwealth Wind (CW), along with associated offshore and onshore cabling, onshore substations, and onshore operations and maintenance (O&M) facilities (Figure 1). Phase 2 is not part of this application. As part of its overall marine site characterization survey operations, Park City Wind plans to conduct high-resolution geophysical (HRG) surveys in the Lease Area.

The purpose of the marine site characterization surveys are to obtain an assessment of seabed (geophysical, geotechnical, and geohazard), ecological, and archeological conditions within the footprint of a planned offshore wind facility development area. Underwater sound resulting from Park City Wind's planned site characterization survey activities, specifically HRG surveys, has the potential to result in incidental take of marine mammals in the form of Level B harassment.

Dates and Duration

Park City Wind anticipates that HRG survey activities will occur on approximately 636 "vessel days," with an assumed daily survey distance of 80 km per vessel. This schedule is based on up to 24-hour operations. Each day that a vessel surveys up to approximately 80 kilometers (km) within 24 hours will count as a single survey day, *e.g.*, two survey vessels operating on the same day will count as two survey days. The use of concurrently surveying vessels will facilitate completion of all 636 vessel days within one year. Park City Wind plans to begin survey activities upon receipt of an IHA and continue for up to one year (though the actual duration will likely be shorter, because

Park City Wind intends to use up to 3 vessels concurrently). Park City Wind and NMFS calculated the number of active sound source days by dividing the total survey trackline (50,880 km) by the approximate survey distance per day (80 km) anticipated to be achieved.

Specific Geographic Region

HRG survey activities are planned to occur in both Federal offshore waters (including Lease Area OCS-A 0534) and along potential offshore export cable corridors (OECC) in both Federal and State nearshore waters of Massachusetts, Rhode Island, Connecticut, and New York. The planned survey will be active within the area illustrated in Figure 1. Water depths in the lease area range from about 35 to 60 meters (m) (115 to 197 feet (ft)). Water depths along the potential OECCs range from 2.5 m to >35 m (8 to >115 ft).

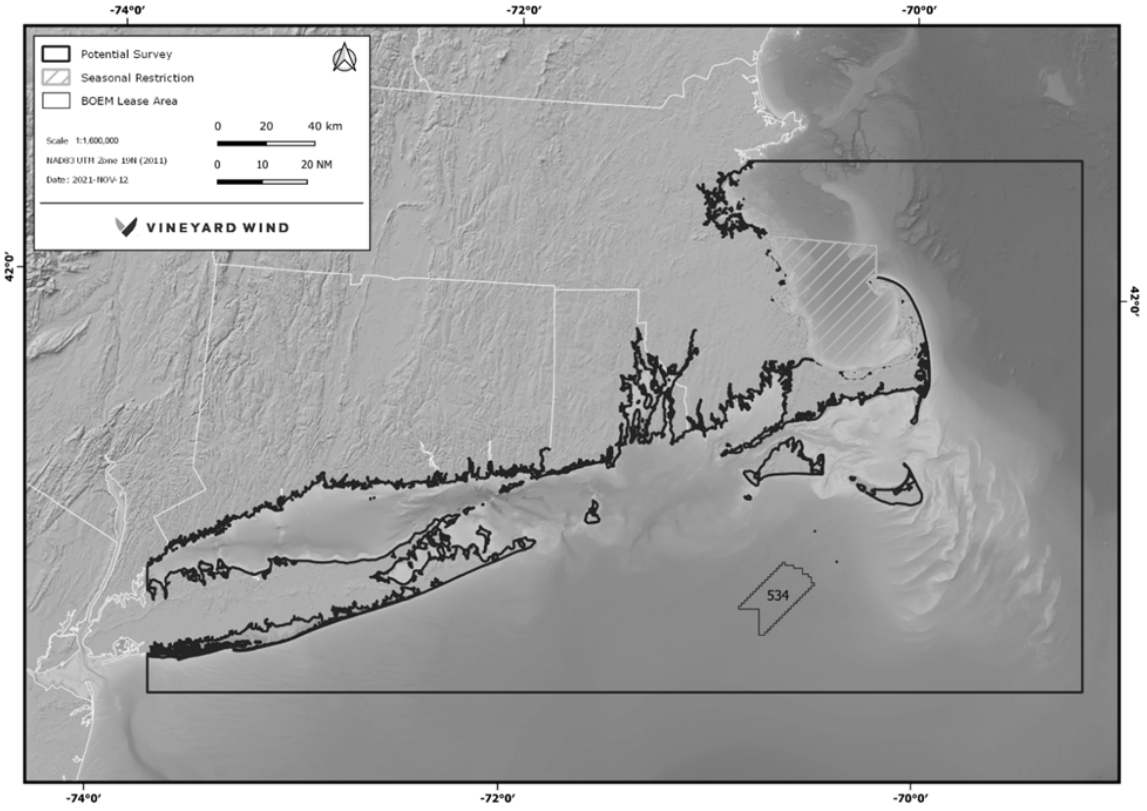

Figure 1 –HRG survey area.

Detailed Description of Specific Activity

Park City Wind plans to conduct HRG survey operations, which may include single and multibeam depth sounding, seafloor imaging, and shallow and medium penetration sub-bottom profiling. The HRG surveys may be conducted using any or all of the following equipment types: side scan sonar, multibeam echosounder, magnetometers and gradiometers, parametric sub-bottom profiler (SBP), compressed high intensity radar pulse (CHIRP) SBP, boomers, or sparkers. Vessels will generally conduct survey effort at a transit speed of approximately 4 knots (kn; 2.1 meters per sec, m/s), which equates to 110 km per 24-hr period. However, based on past survey experience (*i.e.*, knowledge of typical daily downtime due to weather, system malfunctions, etc.), Park City Wind assumes 80 km as the average distance surveyed per 24 hours. On this basis (and as mentioned previously), a total of 636 survey days are expected.

To facilitate completion of all 636 survey days across the survey area within one year, Park City Wind plans to use multiple vessels to acquire the HRG survey data. Up to three HRG vessels are planned to operate concurrently within the survey area. HRG survey activities will be conducted by vessels that can accomplish the survey goals in specific survey areas. Each vessel will maintain both the required course and a survey speed required to cover approximately 80 km (43 nm) per day during line acquisition, with consideration to weather delays, equipment maintenance, and crew availability.

Acoustic sources planned for use during the HRG survey activities include the following (operating frequencies are presented in hertz (Hz) and kilohertz (kHz):

- Shallow penetration non-impulsive, non-parametric sub-bottom profilers (*i.e.*, CHIRP SBPs) are used to map the near-surface stratigraphy (top 0 to 5 m (0 to 16 feet (ft))) of sediment below seabed). A CHIRP system emits sonar pulses that increase in frequency from about 2 to 20 kHz over time. The frequency range can be adjusted to meet project variables. Rather than being towed, these sources are typically mounted on a pole or the hull of

the vessel, reducing the likelihood that an animal will be exposed to the signal; and,

- Medium penetration, impulsive sources (*i.e.*, boomers and sparker) are used to map deeper subsurface stratigraphy. A boomer is a broadband source operating in the 3.5 Hz to 10 kHz frequency range. Sparkers create omnidirectional acoustic pulses from 50 Hz to 4 kHz that can penetrate several hundred meters into the seafloor. These sources are typically towed behind the vessel.

Operation of the following survey equipment types is not expected to present reasonable risk of marine mammal take, and will not be discussed further beyond the brief summaries provided below.

- Non-impulsive, parametric SBPs are used for providing high density data in sub-bottom profiles that are typically required for cable routes, very shallow water, and archaeological surveys. These sources generate short, very narrow-beam (1° to 3.5°) signals at high frequencies (generally around 85-100 kHz). The narrow beamwidth significantly reduces the potential that a marine mammal could be exposed to the signal, while the high frequency of operation means that the signal is rapidly attenuated in seawater. These sources are typically mounted on the hull of the vessel or deployed from a side pole rather than towed behind the vessel.
- Ultra-short baseline (USBL) positioning systems are used to provide high accuracy ranges by measuring the time between the acoustic pulses transmitted by the vessel transceiver and a transponder (or beacon) necessary to produce the acoustic profile. It is a two-component system with a pole-mounted transceiver and one or several transponders mounted on other survey equipment. USBLs are expected to produce extremely

small acoustic propagation distances in their typical operating configuration.

- Single and Multibeam echosounders (MBESs) are used to determine water depths and general bottom topography. The MBESs all have operating frequencies > 180 kHz and are therefore outside the general hearing range of marine mammals.
- Side scan sonar (SSS) is used for seabed sediment classification purposes and to identify natural and man-made acoustic targets on the seafloor. The SSSs all have operating frequencies > 180 kHz and are therefore outside the general hearing range of marine mammals.

HRG survey activities will occur in discrete segments corresponding to the following general areas:

- Lease Area OCS-A 0534 – Inclusive of potential wind turbine generator (WTG) locations, electrical service platform (ESP) location(s), and inter-array cable corridors; and
- OECC route – One or more potential OECC routes through Federal and State waters located within the Potential Survey Area from northern Massachusetts to Long Island as shown in Figure 1.

The maximum survey area has been selected to provide operational flexibility and to cover the possibility of multiple landfall locations associated with the OECC. Track line spacing for HRG survey activities will align with BOEM Guidelines for Providing Archaeological and Historic Property Information pursuant to 30 CFR Part 585 (March 2017) and for Providing Geophysical, Geotechnical, and Geohazard Information pursuant to 30 CFR Part 585 (July 2015) (BOEM 2015). Surveys are planned to support standard geophysical, geotechnical, and geohazard investigations as well as potential unexploded ordnance (UXO) and benthic habitat studies.

Table 1--Summary of Representative HRG Equipment

Equipment	System	Frequency (kHz)	Beam width (°)	Pulse duration (ms)	Repetition rate (Hz)	In-beam		Correction (dB)	Out-of-beam	
						Source level (dB re 1 µPa m)	Peak source level (dB re 1 µPa m)		Source level (dB re 1 µPa m)	Peak source level (dB re 1 µPa m)
Shallow subbottom profiler	EdgeTech Chirp 216	2–16	65	2	3.75	178	182	-8.1	169.9	173.9
Deep seismic profiler	Applied Acoustics AA251 Boomer	0.2–15	180	0.8	2	205	212	0.0	205.0	212.0
	GeoMarine Geo Spark 2000 (400 tip)	0.05–3	180	3.4	1	203	213	0.0	203.0	213.0

Note: Edge Tech Chirp 512i used as proxy source for Edge Tech 216, as Chirp 512i has similar operation settings as Chirp 216. SIG ELC 820 Sparker used as proxy for GeoMarine Geo Spark 2000 (400 tip), as SIG ELC 820 has similar operation settings as Geo Spark 2000. See Crocker and Fratantonio (2016) and Appendix A of Park City Wind's application for more information.
dB – decibel, RMS – Root mean square, 1 µPa - 1 microPascal

Mitigation, monitoring, and reporting measures are described in detail later in this document (please see **Mitigation** and **Monitoring and Reporting**).

Comments and Responses

A notice of NMFS' proposal to issue an IHA to Park City Wind was published in the **Federal Register** on May 27, 2022 (87 FR 32123). That notice described, in detail, Park City Wind's activities, the marine mammal species that may be affected by the activities, and the anticipated effects on marine mammals. In that notice, we requested public input on the request for authorization described therein, our analyses, the proposed authorization, and any other aspect of the notice of proposed IHA, and requested that interested persons submit relevant information, suggestions, and comments. This proposed notice was available for a 30-day public comment period.

NMFS received letters from two environmental non-governmental organizations (eNGOs) (Oceana, Inc. and Clean Ocean Action (COA)). All comments, and NMFS' responses, are provided below, and the letters are available online at: *https://www.fisheries.noaa.gov/action/incidental-take-authorization-park-city-wind-llc-*

new-england-wind-project-phase-1-marine). Please review the letters for full details regarding the comments and underlying justification.

Comment 1: Oceana objects to NMFS' renewal process regarding the extension of any one-year IHA with a truncated 15-day public comment period, and suggested an additional 30-day public comment period is necessary for any renewal request. In addition, they state that IHA renewal must be sure to use the most recent and best available science.

Response: NMFS' IHA renewal process meets all statutory requirements. In prior responses to comments about IHA renewals (*e.g.*, 84 FR 52464; October 2, 2019 and 85 FR 53342, August 28, 2020), NMFS has explained how the renewal process, as implemented, is consistent with the statutory requirements contained in section 101(a)(5)(D) of the MMPA, and further, promotes NMFS' goals of improving conservation of marine mammals and increasing efficiency in the MMPA compliance process. Therefore, we intend to continue implementing the renewal process.

In particular, we emphasize that any Renewal IHA does ultimately have a 30-day public comment period, and in fact, each Renewal IHA is made available for a total 45-day public comment period. The notice of the proposed IHA published in the **Federal Register** on May 27, 2022 (87 FR 32123) made clear that NMFS was seeking comment on the proposed IHA and the potential issuance of a renewal for this survey. As detailed in the **Federal Register** notice for the proposed IHA and on the agency's website, any renewal is limited to another year of identical or nearly identical activities in the same location or the same activities that were not completed within the 1-year period of the initial IHA. NMFS' analysis of the anticipated impacts on marine mammals caused by the applicant's activities covers both the Initial IHA period and the possibility of a one-year renewal. Therefore a member of the public considering commenting on a proposed Initial IHA also knows exactly what activities (or subset of activities) would be included in a

proposed Renewal IHA, the potential impacts of those activities, the maximum amount and type of take that could be caused by those activities, the mitigation and monitoring measures that would be required, and the basis for the agency's negligible impact determinations, least practicable adverse impact findings, small numbers findings, and (if applicable) the no unmitigable adverse impact on subsistence use finding -- all the information needed to provide complete and meaningful comments on a possible renewal at the time of considering the proposed Initial IHA. Reviewers have the information needed to meaningfully comment on both the immediate proposed IHA and a possible 1-year renewal, should the IHA holder choose to request one.

While there would be additional documents submitted with a renewal request, for a qualifying renewal these would be limited to documentation that NMFS would make available and use to verify that the activities are identical to those in the initial IHA, are nearly identical such that the changes would have either no effect on impacts to marine mammals or decrease those impacts, or are a subset of activities already analyzed and authorized but not completed under the initial IHA. NMFS would also need to confirm, among other things, that the activities would occur in the same location; involve the same species and stocks; provide for continuation of the same mitigation, monitoring, and reporting requirements; and that no new information has been received that would alter the prior analysis. The renewal request would also contain a preliminary monitoring report, in order to verify that effects from the activities do not indicate impacts of a scale or nature not previously analyzed. The additional 15-day public comment period, which includes NMFS' direct notice to anyone who commented on the proposed Initial IHA, provides the public an opportunity to review these few documents, provide any additional pertinent information and comment on whether they think the criteria for a renewal have been met. Between the initial 30-day comment period on these same activities and the additional 15 days, the total comment period for a renewal is 45 days.

In addition to the IHA renewal process being consistent with all requirements under section 101(a)(5)(D), it is also consistent with Congress' intent for issuance of IHAs to the extent reflected in statements in the legislative history of the MMPA. Through the provision for renewals in the regulations, description of the process and express invitation to comment on specific potential renewals in the Request for Public Comments section of each proposed IHA, the description of the process on NMFS' website, further elaboration on the process through responses to comments such as these, posting of substantive documents on the agency's website, and provision of 30 or 45 days for public review and comment on all proposed initial IHAs and renewals respectively, NMFS has ensured that the public is “invited and encouraged to participate fully in the agency's decision-making process”, as Congress intended.

In reference to Oceana’s comment requiring the renewal process use most recent and best available science, see comment 2 for further discussion on NMFS use of most recent and best available science.

Comment 2: Oceana stated that NMFS must utilize the best available science, and suggested that NMFS has not done so, specifically referencing information regarding the North Atlantic right whale (NARW) such as updated population estimates, habitat usage in the survey area, and seasonality information. Oceana specifically asserted that NMFS is a steward of the remaining NARWs that swim along our coasts and, as the agency responsible for their recovery, should ensure that the authorization is based on the best scientific information available and that strong protections are in place before approving this or any proposed activity that may take, harass, or cause stress to NARWs.

Response: NMFS agrees that the best available science should be used for assessing NARW when analyzing whether or not to authorize incidental takes. NMFS considered the best available science regarding both recent habitat usage patterns for the study area and up-to-date seasonality information in the notice of the proposed IHA,

including consideration of existing BIAs and densities provided by Roberts *et al.* (2021). While the commenter has suggested that NMFS consider best available information for recent habitat usage patterns and seasonality, it has not offered any additional information which it suggests should be considered best available information in place of what NMFS considered in its notice of proposed IHA (87 FR 32123; May 27, 2022).

Lastly, as we stated in the notice of proposed IHA (87 FR 32123; May 27, 2022), any impacts to marine mammals are expected to be temporary and minor and, given the relative size of the survey area compared to the overall migratory route leading to foraging habitat (which is not affected by the specified activity). Comparatively, the survey area is small (approximately 18,177 km^2 total area) compared to the size of the NARW migratory BIA (269,448 km^2). Because of this, and in context of the minor, low-level nature of the impacts expected to result from the planned survey, such impacts are not expected to result in disruption to biologically important behaviors.

Comment 3: Oceana noted that chronic stressors are an emerging concern for NARW conservation and recovery, and stated that chronic stress may result in energetic effects for NARWs. Oceana suggested that NMFS has not fully considered both the use of the area and the effects of both acute and chronic stressors on the health and fitness of NARWs, as disturbance responses in NARWs could lead to chronic stress or habitat displacement, leading to an overall decline in their health and fitness.

Response: NMFS agrees with Oceana that both acute and chronic stressors are of concern for NARW conservation and recovery. We recognize that acute stress from acoustic exposure is one potential impact of these surveys, and that chronic stress can have fitness, reproductive, *etc*. impacts at the population-level scale. NMFS has carefully reviewed the best available scientific information in assessing impacts to marine mammals, and recognizes that the surveys have the potential to impact marine mammals through behavioral effects, stress responses, and auditory masking.

However, NMFS does not expect that the generally short-term, intermittent, and transitory marine site characterization survey activities planned by Park City Wind will create conditions of acute or chronic acoustic exposure leading to long-term physiological stress responses in marine mammals. NMFS has also prescribed a robust suite of mitigation measures, including extended distance shutdowns for NARW, that are expected to further reduce the duration and intensity of acoustic exposure, while limiting the potential severity of any possible behavioral disruption. The potential for chronic stress was evaluated in making the determinations presented in NMFS' negligible impact analyses. Because NARWs generally use this location in a transitory manner, specifically for migration, any potential impacts from these surveys are lessened for other behaviors due to the brief periods where exposure is possible. In context of these low-level impacts, which are not expected to meaningfully affect important behavior, we also refer again to the large size of the migratory corridor compared with the survey area (the overlap between the BIA and the proposed survey area will cover approximately 18,177 km^2 total area of the 269,448 km^2 BIA). Thus, the transitory nature of NARWs at this location means it is unlikely for any exposure to cause chronic effects, as Park City Wind's planned survey area and ensonified zones are much smaller than the overall migratory corridor. As such, NMFS does not expect acute or cumulative stress to be a detrimental factor to NARWs from Park City Wind's described survey activities.

Comment 4: Oceana and COA asserted that NMFS must fully consider the discrete effects of each activity and the cumulative effects of the suite of approved, proposed and potential activities on marine mammals and NARWs in particular and ensure that the cumulative effects are not excessive before issuing or renewing an IHA.

Response: Neither the MMPA nor NMFS' codified implementing regulations call for a separate "cumulative effects" analysis of other unrelated activities and their impacts on populations. The preamble for NMFS' implementing regulations (54 FR 40338;

September 29, 1989) states in response to comments that the impacts from other past and ongoing anthropogenic activities are to be incorporated into the negligible impact analysis via their impacts on the baseline. Consistent with that direction, NMFS has factored into its negligible impact analysis the impacts of other past and ongoing anthropogenic activities via their impacts on the baseline, *e.g.*, as reflected in the density/distribution and status of the species, population size and growth rate, and other relevant stressors. The 1989 final rule for the MMPA implementing regulations also addressed public comments regarding cumulative effects from future, unrelated activities. There NMFS stated that such effects are not considered in making findings under section 101(a)(5) concerning negligible impact. In this case, this IHA, as well as other IHAs currently in effect or proposed within the specified geographic region, are appropriately considered an unrelated activity relative to the others. The IHAs are unrelated in the sense that they are discrete actions under section 101(a)(5)(D), issued to discrete applicants.

Section 101(a)(5)(D) of the MMPA requires NMFS to make a determination that the take incidental to a "specified activity" will have a negligible impact on the affected species or stocks of marine mammals. NMFS' implementing regulations require applicants to include in their request a detailed description of the specified activity or class of activities that can be expected to result in incidental taking of marine mammals. 50 CFR 216.104(a)(1). Thus, the "specified activity" for which incidental take coverage is being sought under section 101(a)(5)(D) is generally defined and described by the applicant. Here, Park City Wind was the applicant for the IHA, and we are responding to the specified activity as described in that application (and making the necessary findings on that basis).

Through the response to public comments in the 1989 implementing regulations, NMFS also indicated that (1) we would consider cumulative effects that are reasonably

foreseeable when preparing a NEPA analysis, and (2) reasonably foreseeable cumulative effects would also be considered under section 7 of the Endangered Species Act (ESA) for ESA-listed species, as appropriate. Accordingly, NMFS has written Environmental Assessments (EA) that addressed cumulative impacts related to substantially similar activities, in similar locations, *e.g.*, the 2017 Ocean Wind, LLC EA for site characterization surveys off New Jersey and the 2018 Deepwater Wind EA for survey activities offshore Delaware, Massachusetts, and Rhode Island. Cumulative impacts regarding issuance of IHAs for site characterization survey activities such as those planned by Park City Wind have been adequately addressed under NEPA in prior environmental analyses that support NMFS' determination that this action is appropriately categorically excluded from further NEPA analysis. NMFS independently evaluated the use of a categorical exclusion (CE) for issuance of Park City Wind's IHA, which included consideration of extraordinary circumstances.

For ESA-listed species, the cumulative effects of substantially similar activities in the northwest Atlantic Ocean have been analyzed in the past under section 7 of the ESA when NMFS has engaged in formal intra-agency consultation, such as the 2013 programmatic Biological Opinion for BOEM Lease and Site Assessment Rhode Island, Massachusetts, New York, and New Jersey Wind Energy Areas (*https://repository.library.noaa.gov/view/noaa/29291*). Analyzed activities include those for which NMFS issued previous IHAs (82 FR 31562; July 7, 2017, 85 FR 21198; April 16, 2020 and 86 FR 26465; May 10, 2021), which are similar to those planned by Park City Wind under this current IHA request. This Biological Opinion determined that NMFS' issuance of IHAs for site characterization survey activities associated with leasing, individually *and* cumulatively, are not likely to adversely affect listed marine mammals. NMFS notes that, while issuance of this IHA is covered under a different consultation, this Biological Opinion remains valid.

Comment 5: Oceana suggests that Protected Species Observers (PSOs) complement their survey efforts using additional technologies, such as infrared detection devices when in low-light conditions.

Response: NMFS agrees with Oceana regarding this suggestion and a requirement to utilize a thermal (infrared) device during low-light conditions was included in the proposed **Federal Register** notice. That requirement is included as a requirement of the issued IHA.

Comment 6: Oceana recommended that NMFS restrict all vessels of all sizes associated with the proposed survey activities to speeds less than 10 kn (5.14 m/s) at all times with no exceptions due to the risk of vessel strikes to NARWs and other large whales.

Response: While NMFS acknowledges that vessel strikes can result in injury or mortality, we have analyzed the potential for vessel strike resulting from Park City Wind's activity and have determined that based on the nature of the activity and the required mitigation measures specific to vessel strike avoidance included in the IHA, potential for vessel strike is so low as to be discountable. The required mitigation measures, all of which were included in the proposed IHA and are now required in the final IHA, include: A requirement that all vessel operators comply with 10 kn (18.5 km/hour) or less speed restrictions in any Seasonal Management Area (SMA), Dynamic Management Area (DMA) or Slow Zone while underway, and check daily for information regarding the establishment of mandatory or voluntary vessel strike avoidance areas (SMAs, DMAs, Slow Zones) and information regarding NARW sighting locations; a requirement that all vessels greater than or equal to 19.8 m in overall length operating from November 1 through April 30 operate at speeds of 10 kn (18.5 km/hour) or less; a requirement that all vessel operators reduce vessel speed to 10 kn (18.5 km/hour) or less when any large whale, any mother/calf pairs, pods, or large assemblages

of non-delphinid cetaceans are observed near the vessel; a requirement that all survey vessels maintain a separation distance of 500 m or greater from any ESA-listed whales or other unidentified large marine mammals visible at the surface while underway; a requirement that, if underway, vessels must steer a course away from any sighted ESA-listed whale at 10 kn (18.5 km/hr) or less until the 500 m minimum separation distance has been established; a requirement that, if an ESA-listed whale is sighted in a vessel's path, or within 500 m of an underway vessel, the underway vessel must reduce speed and shift the engine to neutral; a requirement that all vessels underway must maintain a minimum separation distance of 100 m from all non-ESA-listed baleen whales; and a requirement that all vessels underway must, to the maximum extent practicable, attempt to maintain a minimum separation distance of 50 m from all other marine mammals, with an understanding that at times this may not be possible (*e.g.*, for animals that approach the vessel). We have determined that the vessel strike avoidance measures in the IHA are sufficient to ensure the least practicable adverse impact on species or stocks and their habitat. Furthermore, no documented vessel strikes have occurred for any marine site characterization surveys for which IHAs were issued from NMFS during the survey activities themselves or while transiting to and from survey sites.

Comment 7: Oceana suggests that NMFS require vessels to maintain a separation distance of at least 500 m from NARW at all times.

Response: NMFS agrees with Oceana regarding this suggestion and a requirement to maintain a separation distance of at least 500 m from NARWs at all times was included in the proposed **Federal Register** notice and was included as a requirement in the issued IHA.

Comment 8: Oceana recommended that the IHA should require all vessels supporting site characterization be equipped with and use Class A Automatic

Identification System (AIS) devices at all times while on the water. Oceana suggested this requirement should apply to all vessels, regardless of size, associated with the survey.

Response: NMFS is generally supportive of the idea that vessels involved with survey activities be equipped with and use Class A Automatic Identification System (devices) at all times while on the water. Indeed, there is a precedent for NMFS requiring such a stipulation for geophysical surveys in the Atlantic Ocean (38 FR 63268, December 7, 2018); however, those activities carried the potential for much more significant impacts than the marine site characterization surveys to be carried out by Park City Wind, with the potential for both Level A and Level B harassment take. Given the small isopleths and small numbers of take authorized by this IHA, NMFS does not agree that the benefits of requiring AIS on all vessels associated with the survey activities outweighs and warrants the cost and practicability issues associated with this requirement.

Comment 9: Oceana asserts that the IHA must include requirements to hold all vessels associated with site characterization surveys accountable to the IHA requirements, including vessels owned by the developer, contractors, employees, and others regardless of ownership, operator, and contract. They state that exceptions and exemptions will create enforcement uncertainty and incentives to evade regulations through reclassification and redesignation. They recommend that NMFS simplify this by requiring all vessels to abide by the same requirements, regardless of size, ownership, function, contract or other specifics.

Response: NMFS agrees with Oceana and required these measures in the proposed IHA and final IHA. The IHA requires that a copy of the IHA must be in the possession of Park City Wind, the vessel operators, the lead PSO, and any other relevant designees of Park City Wind operating under the authority of this IHA. The IHA also states that Park City Wind must ensure that the vessel operator and other relevant vessel

personnel, including the Protected Species Observer (PSO) team, are briefed on all responsibilities, communication procedures, marine mammal monitoring protocols, operational procedures, and IHA requirements prior to the start of survey activity, and when relevant new personnel join the survey operations.

Comment 10: Oceana stated that the IHA must include a requirement for all phases of the site characterization to subscribe to the highest level of transparency, including frequent reporting to federal agencies. Oceana recommended requirements to report all visual and acoustic detections of NARWs and any dead, injured, or entangled marine mammals to NMFS or the Coast Guard as soon as possible and no later than the end of the PSO shift. Oceana states that to foster stakeholder relationships and allow public engagement and oversight of the permitting, the IHA should require all reports and data to be accessible on a publicly available website.

Response: NMFS agrees with the need for reporting and indeed, the MMPA calls for IHAs to incorporate reporting requirements. As included in the proposed IHA, the final IHA includes requirements for reporting that address Oceana's recommendations. Park City Wind is required to submit a monitoring report to NMFS within 90 days after completion of survey activities that fully documents the methods and monitoring protocols, summarizes the data recorded during monitoring. PSO datasheets or raw sightings data must also be provided with the draft and final monitoring report. This final monitoring report is then made available to the public on NMFS website.

Further, the draft IHA and final IHA stipulate that if a NARW is observed at any time by any survey vessels, during surveys or during vessel transit, Park City Wind must immediately report sighting information to the NMFS NARW Sighting Advisory System within two hours of occurrence, when practicable, or no later than 24 hours after occurrence. Park City Wind may also report the sighting to the U.S. Coast Guard. Additionally, Park City Wind must report any discoveries of injured or dead marine

mammals to the Office of Protected Resources, NMFS, and to the New England/Mid-Atlantic Regional Stranding Coordinator as soon as feasible. This includes entangled animals. All reports and associated data submitted to NMFS are included on the website for public inspection.

Comment 11: Oceana recommends a shutdown requirement if a NARW or other ESA-listed species is detected in the clearance zone as well as a publicly available explanation of any exemptions as to why the applicant would not be able to shut down in these situations.

Response: There are several shutdown requirements described in the **Federal Register** notice of the proposed IHA (87 FR 32123; May 27, 2022), and which are included in the final IHA, including the stipulation that geophysical survey equipment must be immediately shut down if any marine mammal is observed within or entering the relevant Exclusion Zone while geophysical survey equipment is operational. Oceana mentions an exemption to the shutdown for human safety, however, there is no exemption for the shutdown requirement for NARW, ESA-listed species, or any other species.

Park City Wind is required to implement a 30-minute pre-start clearance period prior to the initiation of ramp-up of specified HRG equipment. During this period, clearance zones will be monitored by the PSOs, using the appropriate visual technology. Ramp-up may not be initiated if any marine mammal(s) is within its respective clearance zone. If a marine mammal is observed within an clearance zone during the pre-start clearance period, ramp-up may not begin until the animal(s) has been observed exiting its respective exclusion zone or until an additional time period has elapsed with no further sighting (*i.e.,* 15 minutes for small odontocetes and seals, and 30 minutes for all other species). If the acoustic source is shut down for reasons other than mitigation (*e.g.*, mechanical difficulty) for less than 30 minutes, it may be activated again without ramp-

up if PSOs have maintained constant observation and no detections of any marine mammal have occurred within the respective exclusion zones.

In regards to reporting, Park City Wind must notify NMFS if a NARW is observed at any time by any survey vessels during surveys or during vessel transit. Additionally, Park City Wind is required to report the relevant survey activity information, such as such as the type of survey equipment in operation, acoustic source power output while in operation, and any other notes of significance (*i.e.*, pre-clearance survey, ramp-up, shutdown, end of operations, etc.) as well as the estimated distance to an animal and its heading relative to the survey vessel at the initial sighting and survey activity information. We note that if a NARW is detected within the Exclusion Zone before a shutdown is implemented, the NARW and its distance from the sound source, including if it is within the Level B harassment zone, would be reported in Park City Wind's final monitoring report and made publicly available on NMFS' website. Park City Wind is required to immediately notify NMFS of any sightings of NARWs and report upon survey activity information. NMFS believes that these requirements address the commenter's concerns.

Comment 12: Oceana recommended that when HRG surveys are allowed to resume after a shutdown event, the surveys should be required to use a ramp-up procedure to encourage any nearby marine life to leave the area.

Response: NMFS agrees with this recommendation and included in the **Federal Register** notice of the proposed IHA (87 FR 32123; May 27, 2022) and this final IHA a stipulation that when technically feasible, survey equipment must be ramped up at the start or restart of survey activities. A ramp-up procedure, involving a gradual increase in source level output, is required at all times as part of the activation of the acoustic source when technically feasible. Operators should ramp up sources to half power for 5 minutes and then proceed to full power. A 30-minute pre-start clearance observation period must

occur prior to the start of ramp-up (or initiation of source use if ramp-up is not technically feasible). NMFS notes that ramp-up is not required for short periods where acoustic sources were shut down (*i.e.,* less than 30 minutes) if PSOs have maintained constant visual observation and no detections of marine mammals occurred within the applicable Exclusion Zones.

Comment 13: Oceana recommended increasing the Exclusion Zone to 1,000m for NARWs with requirements for HRG survey vessels to use PSOs and Passive Acoustic Monitoring (PAM) to establish and monitor these zones.

Response: NMFS notes that the 500 m Exclusion Zone for NARWs exceeds the modeled distance to the largest 160 dB Level B harassment isopleth (178 m during sparker use) by a conservative margin to be extra cautious. Commenters do not provide a compelling rationale for why the Exclusion Zone should be even larger. Given that these surveys are relatively low impact and that, regardless, NMFS has prescribed a precautionary NARW Exclusion Zone that is larger (500 m) than the conservatively estimated largest harassment zone (178 m), NMFS has determined that the Exclusion Zone is appropriate.

Regarding the use of acoustic monitoring to implement the exclusion zones, NMFS does not anticipate that acoustic monitoring would be effective for a variety of reasons discussed below and therefore has not required it in this IHA. As described in the **Mitigation** section, NMFS has determined that the prescribed mitigation requirements are sufficient to effect the least practicable adverse impact on all affected species or stocks.

The commenters do not explain why they expect that PAM would be effective in detecting vocalizing mysticetes, nor does NMFS agree that this measure is warranted, as it is not expected to be effective for use in detecting the species of concern. It is generally accepted that, even in the absence of additional acoustic sources, using a towed passive

acoustic sensor to detect baleen whales (including NARWs) is not typically effective because the noise from the vessel, the flow noise, and the cable noise are in the same frequency band and will mask the vast majority of baleen whale calls. Vessels produce low-frequency noise, primarily through propeller cavitation, with main energy in the 5-300 Hertz (Hz) frequency range. Source levels range from about 140 to 195 decibel (dB) re 1 μPa (micropascal) at 1 m (NRC, 2003; Hildebrand, 2009), depending on factors such as ship type, load, and speed, and ship hull and propeller design. Studies of vessel noise show that it appears to increase background noise levels in the 71-224 Hz range by 10-13 dB (Hatch *et al*. 2012; McKenna *et al.* 2012; Rolland *et al.* 2012). PAM systems employ hydrophones towed in streamer cables approximately 500 m behind a vessel. Noise from water flow around the cables and from strumming of the cables themselves is also low frequency and typically masks signals in the same range. Experienced PAM operators participating in a recent workshop (Thode *et al*. 2017) emphasized that a PAM operation could easily report no acoustic encounters, depending on species present, simply because background noise levels rendered any acoustic detection impossible. The same workshop report stated that a typical eight-element array towed 500 m behind a vessel could be expected to detect delphinids, sperm whales, and beaked whales at the required range, but not baleen whales, due to expected background noise levels (including seismic noise, vessel noise, and flow noise).

There are several additional reasons why we do not agree that use of PAM is warranted for 24-hour HRG surveys. While NMFS agrees that PAM can be an important tool for augmenting detection capabilities in certain circumstances, its utility in further reducing impact during HRG survey activities is limited. First, for this activity, the area expected to be ensonified above the Level B harassment threshold is relatively small (a maximum of 178 m); this reflects the fact that, to start with, the source level is comparatively low and the intensity of any resulting impacts would be lower level and,

further, it means that inasmuch as PAM will only detect a portion of any animals exposed within a zone, the overall probability of PAM detecting an animal in the harassment zone is low. Together these factors support the limited value of PAM for use in reducing take with smaller zones. PAM is only capable of detecting animals that are actively vocalizing, while many marine mammal species vocalize infrequently or during certain activities, which means that only a subset of the animals within the range of the PAM would be detected (and potentially have reduced impacts). Additionally, localization and range detection can be challenging under certain scenarios. For example, odontocetes are fast moving and often travel in large or dispersed groups which makes localization difficult.

Given that the effects to marine mammals from the types of surveys authorized in this IHA are expected to be limited to low level behavioral harassment even in the absence of mitigation, the limited additional benefit anticipated by adding this detection method (especially for NARWs and other low frequency cetaceans, species for which PAM has limited efficacy), and the cost and impracticability of implementing a full-time PAM program, we have determined the current requirements for visual monitoring are sufficient to ensure the least practicable adverse impact on the affected species or stocks and their habitat. NMFS has previously provided discussions on why PAM isn't a required monitoring measure during HRG survey IHAs in past **Federal Register** notices (see 86 FR 21289, April 22, 2021 and 87 FR 13975, March 11, 2022 for examples).

Comment 14: Oceana states that the IHA must include conditions for the survey activities that will avoid adverse effects on NARWs in and around the survey site and minimize and mitigate the effects that cannot be avoided.

Response: The MMPA requires that an IHA include measures that will effect the least practicable adverse impact on the affected species and stocks, and NMFS agrees that the IHA should include conditions for the survey activities that will first avoid adverse

effects on NARWs in and around the survey site, where practicable, and then minimize the effects that cannot be avoided. NMFS has determined that the IHA meets this requirement to effect the least practicable adverse impact. As part of the analysis for all marine site characterization survey IHAs, NMFS evaluated the effects expected as a result of the specified activity, made the necessary findings, and prescribed mitigation requirements sufficient to achieve the least practicable adverse impact on the affected species and stocks of marine mammals.

Comment 15: COA is concerned regarding the number of species that could be impacted by the activities, as well as a lack of baseline data being available for harbor seals in the area. In addition, COA has stated that NMFS did not adequately account for the severity of effects of activities on common dolphins.

Response: We appreciate the concern expressed by COA. NMFS utilizes the best available science when analyzing which species may be impacted by an applicant's proposed activities. Based on information found in the scientific literature, as well as based on density models developed by Duke University, all marine mammal species included in the proposed **Federal Register** notice have some likelihood of occurring in Park City Winds' survey areas. Furthermore, the MMPA requires us to evaluate the effects of the specified activities in consideration of the best scientific evidence available and, if the necessary findings are made, to issue the requested take authorization. The MMPA does not allow us to delay decision making in hopes that additional information may become available in the future.

Regarding the lack of baseline information cited by COA, with specific concern pointed out for harbor seals, NMFS doesn't expect this activity to have any impacts on animals in New Jersey waters, as Park City Wind's survey activities are not located off of New Jersey.

Comment 16: COA asserts that Level A harassment may occur, and that this was not accounted for in the proposed Notice.

Response: NMFS acknowledges the concerns brought up by the commenters regarding the potential for Level A harassment of NARW. However, no Level A harassment is expected to result, even in the absence of mitigation, given the characteristics of the sources planned for use. This is additionally supported by the required mitigation and very small estimated Level A harassment zones described in NMFS's **Federal Register** notice (87 FR 32123, May 27, 2022). Furthermore, the commenters do not provide any support for the apparent contention that Level A harassment is a potential outcome of these activities. As discussed in the notice of proposed IHA, NMFS considers this category of survey operations to be near de minimis, with the potential for Level A harassment for NARW and any species to be discountable.

Comment 17: COA does not agree with NMFS' negligible impact determination for NARWs and states that NMFS provides an inaccurate characterization of impacts to NARW.

Response: NMFS disagrees with the COA's position regarding the negligible impact analysis, and they do not provide a reasoned basis for finding that the effects of the specified activity would be greater than negligible on NARW. The Negligible Impact Analysis and Determination section of the proposed IHA (87 FR 32123) provides a detailed qualitative discussion supporting NMFS' determination that any anticipated impacts from this action would be negligible. The section contains a number of factors that were considered by NMFS based on the best available scientific data and why we concluded that impacts resulting from the specified activity are not reasonably expected to, or reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.

With specific regard to NARW, we note that take is authorized for only a very small percentage of the right whale population (see Table 5). However, the numbers of potential incidents of take or animals taken are only part of an assessment and are not, alone, decisively indicative of the degree of impact. In order to adequately evaluate the effects of noise exposure at the population level, the total number of take incidents must be further interpreted in context of relevant biological and population parameters and other biological, environmental, and anthropogenic factors and in a spatially and temporally explicit manner. The effects to individuals of a "take" are not necessarily equal. Some take events represent exposures that only just exceed a Level B harassment threshold, which would be expected to result in lower-level impacts, while other exposures occur at higher received levels and would typically be expected to have comparatively greater potential impacts on an individual. Further, responses to similar received levels may result in significantly different impacts on an individual dependent upon the context of the exposure or the status of the individuals (*e.g.*, if it occurred in an area and time where concentrated feeding was occurring, or to individuals weakened by other effects). In this case, NMFS reiterates that no such higher level takes are expected to occur. The maximum anticipated Level B harassment zone is 178 m, a distance smaller than the precautionary shutdown zone of 500 m. To the extent that any exposure of NARW does occur, it would be expected to result in lower-level impacts that are unlikely to result in significant or long-lasting impacts to the exposed individual and, given the relatively small amount of exposures expected to occur, it is unlikely that these exposures would result in population-level impacts. NMFS acknowledges that impacts of a similar degree on a proportion of the individuals in a stock may have differing impacts to the stock based on its status, *i.e.*, smaller stocks may be less able to absorb deaths or reproductive suppression and maintain similar growth rates as larger stocks. However, even given the precarious status of the NARW, the low-level nature of the impacts

expected to occur from this action and the small number of individuals affected supports NMFS' determination that population-level impacts will not occur. The commenters provide no substantive reasoning to contradict this finding, and do not support their assertions of effects greater than NMFS has assumed may occur.

Comment 18: COA asserted that NMFS is overestimating the population abundance for NARW.

Response: NMFS agrees that the most up to date population estimate should be used for assessing NARW abundance estimates. The revised abundance estimate (368; 95 percent with a confidence interval of 356-378) published by Pace (2021) (and subsequently included in the 2021 draft Stock Assessment Reports (SARs; *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports*)), which was used in the proposed IHA, provides the most recent and best available estimate, and introduced improvements to NMFS' right whale abundance model. Specifically, Pace (2021) looked at a different way of characterizing annual estimates of age-specific survival. NMFS considered all relevant information regarding NARW, including the information cited by the commenters. However, NMFS relies on the SAR. Recently, NMFS updated its species web page to recognize the population estimate for NARWs is now below 350 animals (*https://www.fisheries.noaa.gov/species/north-atlantic-right-whale*), as COA mentioned. We anticipate that this information will be presented in the draft 2022 SAR. We note that this change in abundance estimate would not change the estimated take of North Atlantic right whales or authorized take numbers, nor affect our ability to make the required findings under the MMPA for Park City Wind's survey activities.

NMFS further notes that the MMPA specifies that the "best available data" must be used, which does not always mean the most recent. As is NMFS' prerogative, we

referenced the best available NARW abundance estimate of 368 from the draft 2021 SARs as NMFS' determination of the best available data that we relied on in our analysis. The Pace (2021) results strengthened the case for a change in mean survival rates after 2010-2011, but did not significantly change other current estimates (population size, number of new animals, adult female survival) derived from the model.

Lastly, as we stated previously and in the notice of proposed IHA (87 FR 32123; May 27, 2022), any impacts to marine mammals are expected to be temporary and minor and, given the relative size of the survey area compared to the overall migratory route and foraging habitat (which is not affected by the specified activity). The survey area is small (approximately 18,177 km^2 total area) compared to the size of the NARW migratory BIA (269,448 km^2). Because of this, and in context of the minor, low-level nature of the impacts expected to result from the planned survey, such impacts are not expected to result in disruption to biologically important behaviors.

Comment 19: Oceana states that Park City Wind's activities will increase vessel traffic in and around the project area and that the IHA must include a vessel traffic plan to minimize the effects of increased vessel traffic.

Response: NMFS disagrees with Oceana's statement that the IHA must require a vessel traffic plan. During HRG surveys there are no service vessels required. NMFS agrees that a vessel plan may be potentially appropriate for project construction, but it is not needed for marine site characterization surveys.

Description of Marine Mammals in the Area of Specified Activities

Sections 3 and 4 of the application summarize available information regarding status and trends, distribution and habitat preferences, and behavior and life history of the potentially affected species. NMFS fully considered all of this information, and we refer the reader to those descriptions, incorporated here by reference. Additional information regarding population trends and threats may be found in NMFS' Stock Assessment

Reports (SARs; *www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments*) and more general information about these species (*e.g.*, physical and behavioral descriptions) may be found on NMFS' website (*https://www.fisheries.noaa.gov/find-species)*.

Table 2 lists all species or stocks for which take is expected and will be authorized for this activity, and summarizes information related to the population or stock, including regulatory status under the MMPA and Endangered Species Act (ESA) and potential biological removal (PBR), where known. PBR is defined by the MMPA as the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population (as described in NMFS' SARs). While no serious injury or mortality is anticipated or authorized here, PBR and annual serious injury and mortality from anthropogenic sources are included here as gross indicators of the status of the species and other threats.

Marine mammal abundance estimates presented in this document represent the total number of individuals that make up a given stock or the total number estimated within a particular study or survey area. NMFS' stock abundance estimates for most species represent the total estimate of individuals within the geographic area, if known, that comprises that stock's range. For some species, this geographic area may extend beyond U.S. waters. All managed stocks in this region are assessed in NMFS' U.S Atlantic and Gulf of Mexico SARs. All values presented in Table 2 are the most recent available at the time of publication and are available in the draft 2021 SARs (Hayes *et al.,* 2021), available online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/draft-marine-mammal-stock-assessment-reports*.

Table 2. Species Likely Impacted by the Specified Activities

Common name	Scientific name	Stock	ESA/MMPA status; Strategic (Y/N)[1]	Stock abundance (CV, N_{min}, most recent abundance survey)[2]	PBR	Annual M/SI[3]
Order Cetartiodactyla – Cetacea – Superfamily Mysticeti (baleen whales)						
Family Balaenidae						
North Atlantic right whale[4]	*Eubalaena glacialis*	Western North Atlantic (WNA)	E/D; Y	368 (0; 364; 2019)	0.7	7.7
Family Balaenopteridae (rorquals)						
Humpback whale	*Megaptera novaeangliae*	Gulf of Maine	-/-; Y	1,393 (0.15; 1,375; 2016)	22	58
Fin whale	*Balaenoptera physalus*	WNA	E/D; Y	6,802 (0.24; 5,573; 2016)	11	2.35
Sei whale	*Balaenoptera borealis*	Nova Scotia	E/D; Y	6,292 (1.02; 3,098; 2016)	6.2	1.2
Minke whale	*Balaenoptera acutorostrata*	Canadian East Coast	-/-; N	21,968 (0.31; 17,002; 2016)	170	10.6
Blue whale	*Balaenoptera musculus*	WNA	E/D; Y	Unknown (unknown; 402; 2019)	0.8	0
Superfamily Odontoceti (toothed whales, dolphins, and porpoises)						
Family Physeteridae						
Sperm whale	*Physeter macrocephalus*	North Atlantic	E/D; Y	4,349 (0.28;3,451; 2016)	3.9	0
Family Delphinidae						
Long-finned pilot whale	*Globicephala melas*	WNA	-/-; N	39,215 (0.30; 30,627; 2016)	306	29
Short finned pilot whale	*Globicephala macrorhynchus*	WNA	-/-; N	28,924 (0.24; 23,637; 2016)	236	136
Bottlenose dolphin	*Tursiops truncatus*	WNA Offshore	-/-; N	62,851 (0.23; 51,914; 2016)	519	28

		WNA Northern Migratory Coastal	-/D;Y	6,639 (0.41, 4,759, 2016)	48	12.2-21.5
Common dolphin	*Delphinus delphis*	WNA	-/-; N	172,974 (0.21; 145,216; 2016)	1,452	390
Atlantic white-sided dolphin	*Lagenorhynchus acutus*	WNA	-/-; N	93,233 (0.71; 54,443; 2016)	544	27
Atlantic spotted dolphin	*Stenella frontalis*	WNA	-/-; N	39,921 (0.27; 32,032; 2016)	320	0
Risso's dolphin	*Grampus griseus*	WNA	-/-; N	35,215 (0.19; 30,051; 2016)	303	54.3
Family Phocoenidae (porpoises)						
Harbor porpoise	*Phocoena phocoena*	Gulf of Maine/Bay of Fundy	-/-; N	95,543 (0.31; 74,034; 2016)	851	164
Order Carnivora – Superfamily Pinnipedia						
Family Phocidae (earless seals)						
Gray seal[5]	*Halichoerus grypus*	WNA	-/-; N	27,300 (0.22; 22,785, 2029)	1,458	4,453
Harbor seal	*Phoca vitulina*	WNA	-/-; N	61,336 (0.08; 57,637, 2020)	1,729	339

[1]ESA status: Endangered (E), Threatened (T) / MMPA status: Depleted (D). A dash (-) indicates that the species is not listed under the ESA or designated as depleted under the MMPA. Under the MMPA, a strategic stock is one for which the level of direct human-caused mortality exceeds PBR or which is determined to be declining and likely to be listed under the ESA within the foreseeable future. Any species listed under the ESA is automatically designated under the MMPA as depleted and as a strategic stock.
[2]NMFS marine mammal stock assessment reports online at: *www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments*. CV is coefficient of variation; Nmin is the minimum estimate of stock abundance. In some cases, CV is not applicable.
[3]These values, found in NMFS' SARs, represent annual levels of human-caused mortality plus serious injury from all sources combined (*e.g.*, commercial fisheries, ship strike).
[4]The draft 2022 SARs have yet to be released; however, NMFS has updated its species webpage to recognize the population estimate for NARWs is now below 350 animals (https://www.fisheries.noaa.gov/species/north-atlantic-right-whale).
[5]NMFS' gray seal stock abundance estimate (and associated PBR value) applies to U.S. population only. Total stock abundance (including animals in Canada) is approximately 450,000. The annual M/SI value given is for the total stock.

A detailed description of the species likely to be affected by Park City Wind's activities, including information regarding population trends and threats, and local

occurrence, were provided in the **Federal Register** notice for the proposed IHA (87 FR 32123, May 27, 2022). Since that time, we are not aware of any changes in the status of these species and stocks or other relevant new information; therefore, detailed descriptions are not provided here. Please refer to that **Federal Register** notice for those descriptions.

Marine Mammal Hearing

Hearing is the most important sensory modality for marine mammals underwater, and exposure to anthropogenic sound can have deleterious effects. To appropriately assess the potential effects of exposure to sound, it is necessary to understand the frequency ranges marine mammals are able to hear. Not all marine mammal species have equal hearing capabilities (*e.g.*, Richardson *et al.*, 1995; Wartzok and Ketten, 1999; Au and Hastings, 2008). To reflect this, Southall *et al.* (2007, 2019) recommended that marine mammals be divided into hearing groups based on directly measured (behavioral or auditory evoked potential techniques) or estimated hearing ranges (behavioral response data, anatomical modeling, etc.). Note that no direct measurements of hearing ability have been successfully completed for mysticetes (*i.e.*, low-frequency cetaceans). Subsequently, NMFS (2018) described generalized hearing ranges for these marine mammal hearing groups. Generalized hearing ranges were chosen based on the approximately 65 decibel (dB) threshold from the normalized composite audiograms, with the exception for lower limits for low-frequency cetaceans where the lower bound was deemed to be biologically implausible and the lower bound from Southall *et al.* (2007) retained. Marine mammal hearing groups and their associated hearing ranges are provided in Table 3.

Table 3. Marine Mammal Hearing Groups (NMFS, 2018).

Hearing Group	Generalized Hearing Range*
Low-frequency (LF) cetaceans (baleen whales)	7 Hz to 35 kHz
Mid-frequency (MF) cetaceans (dolphins, toothed whales, beaked whales, bottlenose whales)	150 Hz to 160 kHz
High-frequency (HF) cetaceans (true porpoises, *Kogia*, river dolphins, Cephalorhynchid, *Lagenorhynchus cruciger* & *L. australis*)	275 Hz to 160 kHz
Phocid pinnipeds (PW) (underwater) (true seals)	50 Hz to 86 kHz
Otariid pinnipeds (OW) (underwater) (sea lions and fur seals)	60 Hz to 39 kHz

***** Represents the generalized hearing range for the entire group as a composite (*i.e.,* all species within the group), where individual species' hearing ranges are typically not as broad. Generalized hearing range chosen based on ~65 dB threshold from normalized composite audiogram, with the exception for lower limits for LF cetaceans (Southall *et al.* 2007) and PW pinniped (approximation).

The pinniped functional hearing group was modified from Southall *et al*. (2007) on the basis of data indicating that phocid species have consistently demonstrated an extended frequency range of hearing compared to otariids, especially in the higher frequency range (Hemilä *et al*., 2006; Kastelein *et al*., 2009; Reichmuth and Holt, 2013).

For more detail concerning these groups and associated frequency ranges, please see NMFS (2018) for a review of available information. Sixteen marine mammal species (14 cetacean and 2 pinniped (both phocid) species) have the reasonable potential to co-occur with the survey activities. Please refer to Table 2. Of the cetacean species that may be present, six are classified as low-frequency cetaceans (*i.e.*, all mysticete species), seven are classified as mid-frequency cetaceans (*i.e.*, all delphinid species and the sperm whale), and one is classified as a high-frequency cetacean (*i.e.*, harbor porpoise).

Potential Effects of Specified Activities on Marine Mammals and their Habitat

The effects of underwater noise from the deployed acoustic sources have the potential to result in behavioral harassment of marine mammals in the vicinity of the study area. The **Federal Register** notice for the proposed IHA (87 FR 32123; May 27, 2022) included a discussion of the effects of anthropogenic noise, ship strike, stress, and

potential impacts on marine mammals and their habitat, therefore that information is not repeated here; please refer to the **Federal Register** notice for that information.

Estimated Take

This section provides the number of incidental takes authorized through this IHA, which will inform both NMFS' consideration of "small numbers" and the negligible impact determinations.

Harassment is the only type of take expected to result from these activities. Except with respect to certain activities not pertinent here, section 3(18) of the MMPA defines "harassment" as any act of pursuit, torment, or annoyance, which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

Authorized takes will be by Level B harassment only, in the form of disruption of behavioral patterns for individual marine mammals resulting from exposure to noise from certain HRG acoustic sources. Based primarily on the characteristics of the signals produced by the acoustic sources planned for use, Level A harassment is neither anticipated (even absent mitigation), nor authorized. Consideration of the anticipated effectiveness of the mitigation measures (*i.e.*, pre-start clearance and shutdown measures), discussed in detail below in the **Mitigation** section, further strengthens the conclusion that Level A harassment is not a reasonably anticipated outcome of the survey activity. As described previously, no serious injury or mortality is anticipated or authorized for this activity. Below we describe how the take is estimated.

For acoustic impacts, generally speaking, we estimate take by considering: (1) acoustic thresholds above which NMFS believes the best available science indicates marine mammals will be behaviorally harassed or incur some degree of permanent

hearing impairment; (2) the area or volume of water that will be ensonified above these levels in a day; (3) the density or occurrence of marine mammals within these ensonified areas; and, (4) the number of days of activities. We note that while these factors can contribute to a basic calculation to provide an initial prediction of potential takes, additional information that can qualitatively inform take estimates is also sometimes available (*e.g.,* previous monitoring results or average group size). Below, we describe the factors considered here in more detail and present the take estimates.

Acoustic Thresholds

NMFS recommends the use of acoustic thresholds that identify the received level of underwater sound above which exposed marine mammals will be reasonably expected to be behaviorally harassed (equated to Level B harassment) or to incur Permanent Threshold Shift (PTS) of some degree (equated to Level A harassment).

Level B Harassment – Though significantly driven by received level, the onset of behavioral disturbance from anthropogenic noise exposure is also informed to varying degrees by other factors related to the source or exposure context (*e.g.*, frequency, predictability, duty cycle, duration of the exposure, signal-to-noise ratio, distance to the source), the environment (*e.g.*, bathymetry, other noises in the area, predators in the area), and the receiving animals (hearing, motivation, experience, demography, life stage, depth) and can be difficult to predict (*e.g.*, Southall *et al.,* 2007, 2021, Ellison *et al.*, 2012). Based on what the available science indicates and the practical need to use a threshold based on a metric that is both predictable and measurable for most activities, NMFS typically uses a generalized acoustic threshold based on received level to estimate the onset of behavioral harassment. NMFS predicts that marine mammals may be behaviorally harassed (*i.e.*, Level B harassment) when exposed to underwater anthropogenic noise above received levels of 160 dB re 1 µPa (rms) for the impulsive

sources (*i.e.*, boomers, sparkers) and non-impulsive, intermittent sources (*e.g.*, CHIRP SBPs) evaluated here for Park City Wind's planned activity.

Level A harassment – NMFS' Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0) (Technical Guidance, 2018) identifies dual criteria to assess auditory injury (Level A harassment) to five different marine mammal groups (based on hearing sensitivity) as a result of exposure to noise from two different types of sources (impulsive or non-impulsive). For more information, see NMFS' 2018 Technical Guidance, which may be accessed at *www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance*.

Park City Wind's planned activity includes the use of impulsive (*i.e.*, sparkers and boomers) and non-impulsive (*e.g.*, CHIRP SBP) sources. However, as discussed above, NMFS has concluded that Level A harassment is not a reasonably likely outcome for marine mammals exposed to noise through use of the sources planned for use here, and the potential for Level A harassment is not evaluated further in this document. Please see Park City Wind's application for details of a quantitative exposure analysis exercise, *i.e.*, calculated Level A harassment isopleths and estimated Level A harassment exposures. Maximum estimated Level A harassment isopleths were less than 4 m for all sources and hearing groups with the exception of an estimated 53 m zone calculated for high-frequency cetaceans during use of the Boomer, respectively. Park City Wind did not request authorization of take by Level A harassment, and no take by Level A harassment is authorized by NMFS.

Ensonified Area

NMFS has developed a user-friendly methodology for estimating the extent of the Level B harassment isopleths associated with relevant HRG survey equipment (NMFS, 2020). This methodology incorporates frequency and directionality to refine estimated

ensonified zones. For acoustic sources that operate with different beamwidths, the maximum beamwidth was used, and the lowest frequency of the source was used when calculating the frequency-dependent absorption coefficient (Table 1).

NMFS considers the data provided by Crocker and Fratantonio (2016) to represent the best available information on source levels associated with HRG equipment and, therefore, recommends that source levels provided by Crocker and Fratantonio (2016) be incorporated in the method described above to estimate isopleth distances to harassment thresholds. In cases when the source level for a specific type of HRG equipment is not provided in Crocker and Fratantonio (2016), NMFS recommends that either the source levels provided by the manufacturer be used, or, in instances where source levels provided by the manufacturer are unavailable or unreliable, a proxy from Crocker and Fratantonio (2016) be used instead. Table 1 shows the HRG equipment types that may be used during the surveys and the source parameters associated with those HRG equipment types.

Results of modeling using the methodology described above indicated that, of the HRG survey equipment planned for use by Park City Wind that has the potential to result in Level B harassment of marine mammals, the Applied Acoustics AA251 Boomer will produce the largest Level B harassment isopleth (178 m). Estimated Level B harassment isopleths for all sources evaluated here are provided in Table 4. Although Park City Wind does not expect to use the AA251 Boomer source on all planned survey days, it assumes, for purposes of analysis, that the boomer sources will be used on all survey days and across all hours within a given survey day. This is a conservative approach, as the actual sources used on individual survey days, or during a portion of a survey day, may produce smaller distances to the Level B harassment isopleth.

Table 4 -- Distances to Level B Harassment Threshold (160 dB rms)

Equipment	System	Frequency (kHz)	Beam width (°)	Source level (dB re 1 µPa m)	Level B harassment horizontal impact distance (m)
Shallow subbottom profiler	EdgeTech Chirp 216	2–16	65	178	4
Deep seismic profiler	Applied Acoustics AA251 Boomer	0.2–15	180	205	178
	GeoMarine Geo Spark 2000 (400 tip)	0.05–3	180	203	141

Marine Mammal Occurrence

In this section, NMFS provides information about the presence, density, or group dynamics of marine mammals that informs the take calculations.

Habitat-based density models produced by the Duke University Marine Geospatial Ecology Laboratory (Roberts *et al.*, 2016, 2017, 2018, 2021) represent the best available information regarding marine mammal densities in the survey area. The density data presented by Roberts *et al.* (2016, 2017, 2018, 2021) incorporates aerial and shipboard line-transect survey data from NMFS and other organizations and incorporates data from 8 physiographic and 16 dynamic oceanographic and biological covariates, and controls for the influence of sea state, group size, availability bias, and perception bias on the probability of making a sighting. These density models were originally developed for all cetacean taxa in the U.S. Atlantic (Roberts *et al.,* 2016). In subsequent years, certain models have been updated based on additional data as well as certain methodological improvements. More information is available online at *seamap.env.duke.edu/models/Duke-EC/.*

Marine mammal density estimates in the survey area (animals/km^2) were obtained using the most recent model results for all taxa (Roberts *et al.,* 2016, 2017, 2018, 2021). The updated models incorporate additional sighting data, including sightings from NOAA's Atlantic Marine Assessment Program for Protected Species (AMAPPS)

surveys. Those data provide abundance estimates for species or species guilds within 10 km x 10 km grid cells (100 km^2), or in the case of NARW densities within 5 km x 5 km grid cells, on a monthly or annual basis, depending on the species. Using geographic information system (GIS) (ESRI 2017), the survey area and the NARW SMA polygons were used to select grid cells from the Roberts *et al*. (2016; 2017; 2018; 2021) data that contain the most recent monthly or annual estimates for each species for the months of May through December. For the months of January through April, only the survey area polygon was used to select density grid cells since it excludes waters within Cape Cod Bay where no surveys will occur from January 1 through May 15. The average monthly abundance for each species was calculated as the mean value of all grid cells within the survey area and then converted to density (individuals/km^2) by dividing by 100 km^2. Finally, an average annual density was calculated by taking the mean across all 12 months for each species (see Table 8 of the application).

The estimated monthly density of seals provided in Roberts *et al*. (2018) includes all seal species present in the region as a single guild. To split the resulting "seal" density-based exposure estimate by species, the estimate was multiplied by the proportion of the combined abundance attributable to each species. Specifically, the SAR abundance estimates (Hayes *et al.* 2021) were summed for the two species (gray seal = 27,300, harbor seal = 61,336; total = 88,636) and the total divided by the estimate for each species to get the proportion of the total for each species (gray seal = 0.308; harbor seal = 0.692). The total estimated exposure from the "seal" density provide by Roberts *et al*. (2018) was then multiplied by these proportions to get the species specific exposure estimates.

Densities from each of the selected density blocks were averaged for each month available to provide monthly density estimates for each species (when available based on the temporal resolution of the model products), along with the average annual density.

Please see Tables 8 and 9 of Park City Wind's application for density values used in the exposure estimation process. Additional data regarding average group sizes from survey effort in the region was considered to ensure adequate take estimates are evaluated (see Table 10 of the application).

Take Calculation Estimation

Here NMFS describes how the information provided above is brought together to produce a quantitative take estimate. In order to estimate the number of marine mammals predicted to be exposed to sound levels that will result in harassment, radial distances to predicted isopleths corresponding to Level B harassment thresholds are calculated, as described above. The maximum distance (*i.e.*, 178 m distance associated with the boomer) to the Level B harassment criterion and the estimated trackline distance traveled per day by a given survey vessel (*i.e.*, 80 km) was used to calculate the daily ensonified area, or zone of influence (ZOI) around the survey vessel. This distance was multiplied by two times the average daily survey distance (80 km) and the area of a circle with radius 178 m was added to the result to calculate the daily ZOI (28.6 km^2). The daily ZOI was then multiplied by the total number of expected survey days (636) to estimate the total ZOI for the surveys (18,177 km^2).

Potential Level B harassment exposures are estimated by multiplying the average annual density of each species within either the Lease Area or potential ECR area by the total ZOI for the planned surveys. Those results are shown in Table 5.

The larger of the two estimates from the approaches described above: density-based exposure estimates or mean group size was then selected as the authorized take as shown in Table 5. In cases where the calculations resulted in a non-integer, the result was rounded up to the nearest whole number since it is not logical to request a partial take. Additionally, based on observational data collected during prior HRG surveys in this area, the density of common dolphins predicted by the Roberts *et al*. (2018) model does

not appear to adequately reflect the number of dolphins that may be encountered during the planned surveys. Data collected by PSOs on survey vessels operating in 2020–2021 showed an average of approximately 16 common dolphins may be observed within 200 m of a vessel (the approximate Level B harassment distance) per survey day. Multiplying the anticipated 636 survey days by 16 common dolphins per day results in a potential estimated take of 10,176 common dolphins so this has been used as the requested take of common dolphins shown in Table 5.

For the "seal" guild in the Roberts *et al*. (2018) densities, the exposure estimate was split by species using the relative abundance for the two species to produce the species-specific requested take.

For Bottlenose dolphins, the offshore morphotype inhabits the outer continental slope and shelf edge regions from Georges Bank to the Florida Keys, while the coastal morphotype is continuously distributed along the Atlantic Coast from south of New York to the Florida Peninsula (Hayes *et al*. 2020)). Offshore common bottlenose dolphin sightings occur from Cape Hatteras to the eastern end of Georges Bank (Kenney 1990). The western North Atlantic offshore stock is distributed primarily along the OCS and continental slope, from Georges Bank to Cape Hatteras during spring and summer (CeTAP 1982). Bottlenose dolphins encountered in the survey area will likely belong to the Western North Atlantic Offshore stock, so all takes are being requested from this stock. However, it is possible that a few animals encountered during the surveys could be from the North Atlantic Northern Migratory Coastal stock, but chance of occurrence is low, and no take from this species is authorized. Similarly, based on the distributions described in Hayes *et al*. (2020, 2021b), pilot whale sightings in the Lease Area will most likely be long-finned pilot whales, so all pilot whale takes being requested are for long-finned pilot whales.

For NARWs, the implementation of a 500 m acoustic shutdown zone and the 500 m vessel separation distance identified in the vessel strike avoidance measures means that the likelihood of an exposure to received sound levels greater than 160 dB SPLrms is very low. As a precautionary measure, takes by Level B harassment are requested for the survey.

Table 5 -- Takes by Level B harassment and percentages of each species or stock abundance

Taxonomic group	Common name	Stock (NEST)[a]	Density Based Exposures	Mean Group Size	Take by Level B harassment	Percent of Stock
Cetacean (Mysticete)	NARW	Western Atlantic Stock (368)	29	2.4	30	8.2
	Blue whale	Western North Atlantic Stock (402)	0	1.0	1	Less than 1 percent
	Fin whale	Western North Atlantic Stock (6,802)	59	1.8	60	Less than 1 percent
	Sei whale	Nova Scotia Stock (6,292)	5	1.6	5	Less than 1 percent
	Minke whale	Canadian East Coastal Stock (21,968)	37	1.2	37	Less than 1 percent
	Humpback whale	West Indies DPS (1,396)	45	2.0	46	3.3
Cetacean (Odontocete)	Sperm whale	North Atlantic Stock (4,349)	2	1.5	5	Less than 1 percent
	Atlantic white-sided dolphin	Western North Atlantic Stock (93,233)	1,014	27.9	1,014	Less than 2 percent
	Atlantic spotted dolphin	Western North Atlantic Stock (39,921)	4	29.0	29	Less than 1 percent

	Common bottlenose dolphin	Western North Atlantic Offshore Stock (62,851)	398	7.8	399	Less than 1 percent
	Long-finned pilot whale	Western North Atlantic Stock (68,139)	86	8.4	86	Less than 1 percent
	Risso's dolphin	Western North Atlantic Stock (35,215)	4	5.4	30	Less than 1 percent
	Common dolphin (short-beaked)	Western North Atlantic Stock (172,974)	1,081	34.9	10,176	5.9
	Harbor porpoise	Western North Atlantic Stock (95,543)	759	2.7	759	Less than 1 percent
Pinniped (Phocid)	Gray seal	Western North Atlantic Stock (27,300)	399	0.4	400	Less than 2 percent
	Harbor seal	Western North Atlantic Stock (61,336)	897	1.0	897	Less than 2 percent

[a] Source – (Hayes *et al*. 2021)

Rare Species

Species considered to be rare or not expected to occur in the area were not included in the previous exposure estimates because the densities would be too low to provide meaningful density-based exposures. Nonetheless, species considered to be rare are occasionally encountered. For example, white-beaked dolphins were recorded in both 2019 and 2020 during HRG surveys in this area (Vineyard-Wind 2019, 2020) with the sighting of White-beaked dolphins in 2019 consisting of 30 animals. Other rare species encountered in the survey area during previous HRG surveys include false killer whale in 2019 (five individuals) and 2021 (one individual) (Vineyard-Wind 2019, 2021) and orca (killer whale) in 2022 (two individuals; data not yet submitted). When species not listed

in an IHA are encountered and may be taken, it is necessary to cease survey operations to avoid unauthorized take. To avoid this potential disruption to survey operations, Park City Wind is requesting and NMFS is proposing take by Level B harassment for these three rare species based on the largest number of individuals observed within one year: 30 white-beaked dolphins, 5 false killer whales, and 2 killer whales.

The take numbers shown in Table 5 are those requested by Park City Wind. NMFS concurs with the requested take numbers and proposes to authorize them. Previous monitoring data compiled by Park City Wind (available online at: *www.fisheries.noaa.gov/action/incidental-take-authorization-ocean-wind-marine-site-characterization-surveys-offshore-new*) suggests that the take numbers for authorization are sufficient.

Mitigation

In order to issue an IHA under section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to the activity, and other means of effecting the least practicable impact on the species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stock for taking for certain subsistence uses (latter not applicable for this action). NMFS regulations require applicants for incidental take authorizations to include information about the availability and feasibility (economic and technological) of equipment, methods, and manner of conducting the activity or other means of effecting the least practicable adverse impact upon the affected species or stocks, and their habitat (50 CFR 216.104(a)(11)).

In evaluating how mitigation may or may not be appropriate to ensure the least practicable adverse impact on species or stocks and their habitat, as well as subsistence uses where applicable, NMFS considers two primary factors:

(1) The manner in which, and the degree to which, the successful implementation of the measure(s) is expected to reduce impacts to marine mammals, marine mammal species or stocks, and their habitat. This considers the nature of the potential adverse impact being mitigated (likelihood, scope, range). It further considers the likelihood that the measure will be effective if implemented (probability of accomplishing the mitigating result if implemented as planned), the likelihood of effective implementation (probability implemented as planned), and;

(2) The practicability of the measures for applicant implementation, which may consider such things as cost, and impact on operations.

Mitigation for Marine Mammals and their Habitat

NMFS has prescribed the following mitigation measures to be implemented during Park City Wind's marine site characterization surveys. Pursuant to section 7 of the ESA, Park City Wind will also be required to adhere to relevant Project Design Criteria (PDC) of the NMFS' Greater Atlantic Regional Fisheries Office (GARFO) programmatic consultation (specifically PDCs 4, 5, 7, and 8) regarding geophysical surveys along the U.S. Atlantic coast (*https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-take-reporting-programmatics-greater-atlantic#offshore-wind-site-assessment-and-site-characterization-activities-programmatic-consultation*).

Marine Mammal Shutdown Zones and Level B Harassment Zone

Marine mammal shutdown zones (SZs) will be established around the HRG survey equipment and monitored by PSOs:

- 500-m SZ for NARWs
- 100-m SZ for all other marine mammals

If a marine mammal is detected approaching or entering the SZs during the HRG survey, the vessel operator will adhere to the shutdown procedures described below to

minimize noise impacts on the animals. These stated requirements will be included in the site-specific training provided to the survey team.

Pre-Start Clearance

Marine mammal clearance zones (CZs) will be established around the HRG survey equipment and monitored by PSOs:

- 500-m CZ for all ESA-listed marine mammals; and
- 100-m CZ for all other marine mammals

Park City Wind will implement a 30-minute pre-start clearance period prior to initiation of ramp-up of specified HRG equipment. During this period, CZs will be monitored by PSOs, using the appropriate visual technology. Ramp-up may not be initiated if any marine mammal(s) is within its respective CZ. If a marine mammal is observed within its CZ during the pre-start clearance period, ramp-up may not begin until the animal(s) has been observed exiting its respective CZ or until an additional time has elapsed with no further sighting (*i.e.*, 15 minutes for small odontocetes and seals, and 30 minutes for all other species).

Ramp-Up of Survey Equipment

When technically feasible, a ramp-up procedure will be used for HRG survey equipment capable of adjustment of energy levels at the start or restart of survey activities. The ramp-up procedure will be used at the beginning of HRG survey activities to provide additional protection to marine mammals in or near the Survey Area by allowing them to vacate the area prior to the commencement of survey equipment operation at full power. A ramp-up procedure, involving a gradual increase in source level output, is required at all times as part of the activation of the acoustic source when technically feasible. Operators should ramp up sources to half power for 5 minutes and then proceed to full power. A 30-minute pre-start clearance observation period must occur prior to the start of ramp-up (or initiation of source use if ramp-up is not technically

feasible). Ramp-up activities will be delayed if a marine mammal(s) enters its respective CZ. Ramp-up will continue if the animal has been observed exiting its respective CZ or until an additional period has elapsed with no additional sightings (*i.e.,* 15 minutes for small odontocetes and seals, and 30 minutes for all other species).

Activation of survey equipment through ramp-up procedures is prohibited when visual observation of the pre-start clearance/shutdown zone is not expected to be effective using the appropriate visual technology (*i.e.,* during inclement conditions such as heavy rain or fog).

Shutdown Procedures

An immediate shutdown of the specified HRG survey equipment will be required if a marine mammal is sighted entering or within its respective SZ, subject to certain limited exceptions. The vessel operator must comply immediately with any call for shutdown by the PSO. Any disagreement between the PSO and vessel operator will be discussed only after shutdown has occurred. Subsequent restart of the survey equipment can be initiated if the animal has been observed exiting its respective SZ or until an additional time has elapsed *(i.e.*, 15 minutes for harbor porpoise, 30 minutes for all other species).

If a species for which authorization has not been granted, or a species for which authorization has been granted but the authorized number of takes have been met, approaches or is observed within the applicable Level B harassment zone (178 m) (Table 4), shutdown will occur.

If the acoustic source is shut down for reasons other than mitigation (*e.g.*, mechanical difficulty) for less than 30 minutes, it may be activated again without ramp-up if PSOs have maintained constant observation and no detections of any marine mammal have occurred within the respective SZs. If the acoustic source is shut down for

a period longer than 30 minutes, then pre-start clearance and ramp-up procedures will be initiated as described in the previous section.

The shutdown requirement will be waived for pinnipeds and for small delphinids of the following genera: *Delphinus, Lagenorhynchus, Stenella,* and *Tursiops*. Specifically, if a delphinid from the specified genera or a pinniped is visually detected approaching the vessel (*i.e.*, to bow ride) or towed equipment, shutdown is not required. If there is uncertainty regarding identification of a marine mammal species (*i.e.*, whether the observed marine mammal(s) belongs to one of the delphinid genera for which shutdown is waived), PSOs must use best professional judgement in making the decision to call for a shutdown. Additionally, shutdown is required if a delphinid or pinniped detected in the shutdown zone and belongs to a genus other than those specified.

Shutdown, pre-start clearance, and ramp-up procedures will not be required during HRG survey operations using only non-impulsive sources (*e.g.*, echosounders), except for non-parametric sub-bottom profilers (*e.g.*, CHIRP SBPs).

Vessel Strike Avoidance

Park City Wind must ensure that vessel operators and crew maintain a vigilant watch for cetaceans and pinnipeds and slow down or stop their vessels to avoid striking these species. Survey vessel crew members responsible for navigation duties will receive site-specific training on marine mammals sighting/reporting and vessel strike avoidance measures. Vessel strike avoidance measures include the following, except under circumstances when complying with these requirements would put the safety of the vessel or crew at risk:

- Vessel operators and crews must maintain a vigilant watch for all protected species and slow down, stop their vessel(s), or alter course, as appropriate and regardless of vessel size, to avoid striking any protected species. A visual observer aboard the vessel must monitor a vessel strike avoidance zone based on the appropriate

separation distance around the vessel (distances stated below). Visual observers monitoring the vessel strike avoidance zone may be third-party observers (*i.e.*, PSOs) or crew members, but crew members responsible for these duties must be provided sufficient training to 1) distinguish protected species from other phenomena and 2) broadly to identify a marine mammal as a NARW, other whale (defined in this context as sperm whales or baleen whales other than NARWs), or other marine mammal.

- Members of the monitoring team will consult NMFS' NARW reporting system and Whale Alert at the start of every PSO shift, for situational awareness regarding the presence of NARWs throughout the Survey Area, and for the establishment of Slow Zones (including visual-detection-triggered DMAs and acoustically-triggered slow zones) within or near the Survey Area.
- All survey vessels, regardless of size, must observe a 10-kn (5.14 m/s) speed restriction in specific areas designated by NMFS for the protection of NARWs from vessel strikes, including SMAs and DMAs when in effect;
- All vessels greater than or equal to 19.8 m in overall length operating from November 1 through April 30 will operate at speeds of 10 kn (5.14 m/s) or less at all times;
- All vessels must reduce their speed to 10 knots or less when mother/calf pairs, pods, or large assemblages of cetaceans are observed near a vessel;
- All vessels must maintain a minimum separation distance of 500 m from North Atlantic right whales and other ESA-listed species. If an ESA-listed species is sighted within the relevant separation distance, the vessel must steer a course away at 10 knots or less until the 500-m separation distance has been established. If a whale is observed but cannot be confirmed as a species that is not ESA-listed, the vessel operator must assume that it is an ESA-listed species and take appropriate action.

- All vessels must, to the maximum extent practicable, attempt to maintain a minimum separation distance of 100 m from all non-ESA listed whales,
- All vessels must, to the maximum extent practicable, attempt to maintain a minimum separation distance of 50 m from all other marine mammals, with an understanding that at times this may not be possible (*e.g.,* for animals that approach the vessel).
- When marine mammals are sighted while a vessel is underway, the vessel must take action as necessary to avoid violating the relevant separation distance (*e.g.*, attempt to remain parallel to the animal's course, avoid excessive speed or abrupt changes in direction until the animal has left the area). If marine mammals are sighted within the relevant separation distance, the vessel must reduce speed and shift the engine to neutral, not engaging the engines until animals are clear of the area. This does not apply to any vessel towing gear or any vessel that is navigationally constrained.

Seasonal Restrictions

Park City Wind proposes to refrain from conducting survey activities using HRG equipment operating at or below 180 kHz from January 1 through May 15 within the NARW SMA in Cape Cod Bay.

Crew Training

Project-specific training will be conducted for all vessel crew prior to the start of a survey and during any changes in crew such that all survey personnel are fully aware and understand the mitigation, monitoring, and reporting requirements. Prior to implementation with vessel crews, the training program will be provided to NMFS for review and approval. Confirmation of the training and understanding of the requirements will be documented on a training course log sheet. Signing the log sheet will certify that the crew member understands and will comply with the necessary requirements throughout the survey activities.

Based on our evaluation of the applicant's measures, as well as other measures considered by NMFS, NMFS has determined that the mitigation measures provide the means of effecting the least practicable impact on marine mammal species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

Monitoring and Reporting

In order to issue an IHA for an activity, section 101(a)(5)(D) of the MMPA states that NMFS must set forth requirements pertaining to the monitoring and reporting of such taking. The MMPA implementing regulations at 50 CFR 216.104(a)(13) indicate that requests for authorizations must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present while conducting the activities. Effective reporting is critical both to compliance as well as ensuring that the most value is obtained from the required monitoring.

Monitoring and reporting requirements prescribed by NMFS will contribute to improved understanding of one or more of the following:

- Occurrence of marine mammal species or stocks in the area in which take is anticipated (*e.g.*, presence, abundance, distribution, density);
- Nature, scope, or context of likely marine mammal exposure to potential stressors/impacts (individual or cumulative, acute or chronic), through better understanding of: (1) action or environment (*e.g.*, source characterization, propagation, ambient noise); (2) affected species (*e.g.*, life history, dive patterns); (3) co-occurrence of marine mammal species with the action; or (4) biological or behavioral context of exposure (*e.g.*, age, calving or feeding areas);

- Individual marine mammal responses (behavioral or physiological) to acoustic stressors (acute, chronic, or cumulative), other stressors, or cumulative impacts from multiple stressors;
- How anticipated responses to stressors impact either: (1) long-term fitness and survival of individual marine mammals; or (2) populations, species, or stocks;
- Effects on marine mammal habitat (*e.g.*, marine mammal prey species, acoustic habitat, or other important physical components of marine mammal habitat); and,
- Mitigation and monitoring effectiveness.

Monitoring Measures

Visual monitoring will be performed by qualified, NMFS-approved PSOs, the resumes of whom will be provided to NMFS for review and approval prior to the start of survey activities. Park City Wind will employ independent, dedicated, trained PSOs, meaning that the PSOs must 1) be employed by a third-party observer provider, 2) have no tasks other than to conduct observational effort, collect data, and communicate with and instruct relevant vessel crew with regard to the presence of marine mammals and mitigation requirements (including brief alerts regarding maritime hazards), and 3) have successfully completed an approved PSO training course appropriate for their designated task. On a case-by-case basis, non-independent observers may be approved by NMFS for limited, specific duties in support of approved, independent PSOs on smaller vessels with limited crew capacity operating in nearshore waters. Section 5 of the draft IHA contains further details regarding PSO approval.

The PSOs will be responsible for monitoring the waters surrounding each survey vessel to the farthest extent permitted by sighting conditions, including shutdown zones, during all HRG survey operations. PSOs will visually monitor and identify marine mammals, including those approaching or entering the established shutdown zones

during survey activities. It will be the responsibility of the Lead PSO on duty to communicate the presence of marine mammals as well as to communicate the action(s) that are necessary to ensure mitigation and monitoring requirements are implemented as appropriate.

During all HRG survey operations (*e.g.*, any day on which use of an HRG source is planned to occur), a minimum of one PSO must be on duty during daylight operations on each survey vessel, conducting visual observations at all times on all active survey vessels during daylight hours (*i.e.*, from 30 minutes prior to sunrise through 30 minutes following sunset). Two PSOs will be on watch during nighttime operations and during periods of poor visibility. The PSO(s) will ensure 360° visual coverage around the vessel from the most appropriate observation posts and will conduct visual observations using binoculars and/or night vision goggles, infrared cameras and the naked eye while free from distractions and in a consistent, systematic, and diligent manner. PSOs may be on watch for a maximum of 4 consecutive hours followed by a break of at least 2 hours between watches and may conduct a maximum of 12 hours of observation per 24-hr period. In cases where multiple vessels are surveying concurrently, any observations of marine mammals will be communicated to PSOs on all nearby survey vessels.

PSOs must be equipped with binoculars and have the ability to estimate distance and bearing to detect marine mammals, particularly in proximity to shutdown zones. Reticulated binoculars must also be available to PSOs for use as appropriate based on conditions and visibility to support the sighting and monitoring of marine mammals. During nighttime operations, night-vision goggles with thermal clip-ons and infrared technology will be used. Position data will be recorded using hand-held or vessel GPS units for each sighting.

During good conditions (*e.g.*, daylight hours; Beaufort sea state (BSS) 3 or less), to the maximum extent practicable, PSOs will also conduct observations when the

acoustic source is not operating for comparison of sighting rates and behavior with and without use of the active acoustic sources. Any observations of marine mammals by crew members aboard any vessel associated with the survey will be relayed to the PSO team. Data on all PSO observations will be recorded based on standard PSO collection requirements. This will include dates, times, and locations of survey operations; dates and times of observations, location and weather; details of marine mammal sightings (*e.g.*, species, numbers, behavior); and details of any observed marine mammal behavior that occurs (*e.g.*, noted behavioral disturbances).

Reporting Measures

Within 90 days after completion of survey activities or expiration of this IHA, whichever comes sooner, a final technical report will be provided to NMFS that fully documents the methods and monitoring protocols, summarizes the data recorded during monitoring, summarizes the number of marine mammals observed during survey activities (by species, when known), summarizes the mitigation actions taken during surveys (including what type of mitigation and the species and number of animals that prompted the mitigation action, when known), and provides an interpretation of the results and effectiveness of all mitigation and monitoring. A final report must be submitted within 30 days following resolution of any comments on the draft report. All draft and final marine mammal and acoustic monitoring reports must be submitted to *PR.ITP.MonitoringReports@noaa.gov*, *nmfs.gar.incidental-take@noaa.gov,* and *ITP.Potlock@noaa.gov*. The report must contain at minimum, the following:

- PSO names and affiliations;
- Dates of departures and returns to port with port name;
- Dates and times (Greenwich Mean Time) of survey effort and times corresponding with PSO effort;

- Vessel location (latitude/longitude) when survey effort begins and ends; vessel location at beginning and end of visual PSO duty shifts;
- Vessel heading and speed at beginning and end of visual PSO duty shifts and upon any line change;
- Environmental conditions while on visual survey (at beginning and end of PSO shift and whenever conditions change significantly), including wind speed and direction, Beaufort sea state, Beaufort wind force, swell height, weather conditions, cloud cover, sun glare, and overall visibility to the horizon;
- Factors that may be contributing to impaired observations during each PSO shift change or as needed as environmental conditions change (*e.g.*, vessel traffic, equipment malfunctions); and
- Survey activity information, such as type of survey equipment in operation, acoustic source power output while in operation, and any other notes of significance (*i.e.*, pre-start clearance survey, ramp-up, shutdown, end of operations, etc.).

If a marine mammal is sighted, the following information will be recorded:

- Watch status (sighting made by PSO on/off effort, opportunistic, crew, alternate vessel/platform);
- PSO who sighted the animal;
- Time of sighting;
- Vessel location at time of sighting;
- Water depth;
- Direction of vessel's travel (compass direction);
- Direction of animal's travel relative to the vessel;
- Pace of the animal;
- Estimated distance to the animal and its heading relative to vessel at initial sighting;

- Identification of the animal (*e.g.*, genus/species, lowest possible taxonomic level, or unidentified); also note the composition of the group if there is a mix of species;
- Estimated number of animals (high/low/best);
- Estimated number of animals by cohort (adults, yearlings, juveniles, calves, group composition, etc.);
- Description (as many distinguishing features as possible of each individual seen, including length, shape, color, pattern, scars or markings, shape and size of dorsal fin, shape of head, and blow characteristics);
- Detailed behavior observations (*e.g.*, number of blows, number of surfaces, breaching, spyhopping, diving, feeding, traveling; as explicit and detailed as possible; note any observed changes in behavior);
- Animal's closest point of approach and/or closest distance from the center point of the acoustic source;
- Platform activity at time of sighting (*e.g.*, deploying, recovering, testing, data acquisition, other); and
- Description of any actions implemented in response to the sighting (*e.g.*, delays, shutdown, ramp-up, speed or course alteration, etc.) and time and location of the action.

If a NARW is observed at any time by PSOs or personnel on any project vessels, during surveys or during vessel transit, Park City Wind must immediately report sighting information to the NMFS NARW Sighting Advisory System: (866) 755-6622. NARW sightings in any location may also be reported to the U.S. Coast Guard via channel 16.

In the event that Park City Wind personnel discover an injured or dead marine mammal, Park City Wind will report the incident to the NMFS Office of Protected Resources (OPR) and the NMFS New England/Mid-Atlantic Stranding Coordinator as

soon as feasible. The report will include the following information:

- Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);
- Species identification (if known) or description of the animal(s) involved;
- Condition of the animal(s) (including carcass condition if the animal is dead);
- Observed behaviors of the animal(s), if alive;
- If available, photographs or video footage of the animal(s); and
- General circumstances under which the animal was discovered.

In the unanticipated event of a ship strike of a marine mammal by any vessel involved in the activities covered by the IHA, Park City Wind will report the incident to the NMFS OPR and the NMFS New England/Mid-Atlantic Stranding Coordinator as soon as feasible. The report will include the following information:

- Time, date, and location (latitude/longitude) of the incident;
- Species identification (if known) or description of the animal(s) involved;
- Vessel's speed during and leading up to the incident;
- Vessel's course/heading and what operations were being conducted (if applicable);
- Status of all sound sources in use;
- Description of avoidance measures/requirements that were in place at the time of the strike and what additional measures were taken, if any, to avoid strike;
- Environmental conditions (*e.g.*, wind speed and direction, Beaufort sea state, cloud cover, visibility) immediately preceding the strike;
- Estimated size and length of animal that was struck;
- Description of the behavior of the marine mammal immediately preceding and following the strike;

- If available, description of the presence and behavior of any other marine mammals immediately preceding the strike;
- Estimated fate of the animal (*e.g.*, dead, injured but alive, injured and moving, blood or tissue observed in the water, status unknown, disappeared); and
- To the extent practicable, photographs or video footage of the animal(s).

Negligible Impact Analysis and Determination

NMFS has defined negligible impact as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival (50 CFR 216.103). A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (*i.e.*, population-level effects). An estimate of the number of takes alone is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be "taken" through harassment, NMFS considers other factors, such as the likely nature of any impacts or responses (*e.g.*, intensity, duration), the context of any impacts or responses (*e.g.*, critical reproductive time or location, foraging impacts affecting energetics), as well as effects on habitat, and the likely effectiveness of the mitigation. We also assess the number, intensity, and context of estimated takes by evaluating this information relative to population status. Consistent with the 1989 preamble for NMFS' implementing regulations (54 FR 40338; September 29, 1989), the impacts from other past and ongoing anthropogenic activities are incorporated into this analysis via their impacts on the baseline (*e.g.*, as reflected in the regulatory status of the species, population size and growth rate where known, ongoing sources of human-caused mortality, or ambient noise levels).

To avoid repetition, our analysis applies to all the species listed in Table 5 given that NMFS expects the anticipated effects of the survey to be similar in nature. Where

there are meaningful differences between species or stocks - as is the case of the NARW - they are included as separate subsections below. NMFS does not anticipate that serious injury or mortality will occur as a result from HRG surveys, even in the absence of mitigation, and no serious injury or mortality is authorized. As discussed in the **Potential Effects of Specified Activities on Marine Mammals and their Habitat** section, non-auditory physical effects and vessel strike are not expected to occur. NMFS expects that all potential takes will be in the form of short-term Level B behavioral harassment in the form of temporary avoidance of the area or decreased foraging (if such activity was occurring), reactions that are considered to be of low severity and with no lasting biological consequences (*e.g.*, Southall *et al.*, 2007). Even repeated Level B harassment of some small subset of an overall stock is unlikely to result in any significant decrease in viability for the affected individuals, and thus will not result in any adverse impact to the stock as a whole. As described above, Level A harassment is not expected to occur given the nature of the operations and the estimated size of the Level A harassment zones.

In addition to being temporary, the maximum expected harassment zone around a survey vessel is 178 m. Although this distance is assumed for all survey activity in estimating take numbers authorized and evaluated here, other survey activity will involve use of acoustic sources with a reduced acoustic harassment zone producing expected effects of particularly low(er) severity. Therefore, the ensonified area surrounding each vessel is relatively small compared to the overall distribution of the animals in the area and their use of the habitat. Feeding behavior is not likely to be significantly impacted as prey species are mobile and are broadly distributed throughout the survey area; therefore, marine mammals that may be temporarily displaced during survey activities are expected to be able to resume foraging once they have moved away from areas with disturbing levels of underwater noise. Because of the temporary nature of the disturbance and the availability of similar habitat and resources in the surrounding area, the impacts to marine

mammals and the food sources that they utilize are not expected to cause significant or long-term consequences for individual marine mammals or their populations.

There are no rookeries, mating or calving grounds known to be biologically important to marine mammals within the survey area. However, there are BIAs for large whales, which overlap with the survey area. As discussed earlier in this document, there are two BIAs for feeding fin whales that flank the survey area, a BIA for feeding humpback whales northeast of the survey area, and a portion of the minke and sei whale feeding BIAs within the survey area. Migration and feeding BIAs for NARW are present in the survey area and are discussed in the NARW subsection below.

Due to the fact that the survey activities are temporary and the spatial extent of sound produced by the survey will be very small relative to the spatial extent of the available feeding habitat in the BIAs for large whales (as previously discussed), feeding for large whales is not expected to be impacted by the survey. Given the relatively small size of the ensonified area, it is unlikely that prey availability will be adversely affected by HRG survey operations.

NARWs

The status of the NARW population is of heightened concern and, therefore, merits additional analysis. As noted previously, elevated NARW mortalities began in June 2017 and there is an active Unusual Mortality Event (UME). Overall, preliminary findings support human interactions, specifically vessel strikes and entanglements, as the cause of death for the majority of NARWs. As noted previously, the survey area overlaps migratory and feeding BIAs and critical habitat for NARW. Because the survey activities are temporary and the spatial extent of sound produced by the survey will be very small relative to the spatial extent of the available migratory and feeding habitats in the BIAs and critical habitat, NARW migration is not expected to be impacted by the survey. Given the relatively small size of the ensonified area, it is unlikely that prey availability

for NARW will be adversely affected by HRG survey operations. Required vessel strike avoidance measures will also decrease risk of ship strike during migration; no ship strike is expected to occur during Park City Wind's activities. Additionally, only very limited take by Level B harassment of NARW has been requested and is being authorized by NMFS, as HRG survey operations are required to maintain a 500 m EZ and shutdown if a NARW is sighted at or within the EZ. The 500 m shutdown zone for NARWs is conservative, considering the Level B harassment isopleth for the most impactful acoustic source (*i.e.*, boomer) is estimated to be 178 m, and thereby minimizes the potential for behavioral harassment of this species. As noted previously, Level A harassment is not expected due to the small PTS zones associated with HRG equipment types for use. NMFS does not anticipate NARWs takes that will result from Park City Wind's activities will impact annual rates of recruitment or survival. Thus, any takes that occur will not result in population level impacts.

Other Marine Mammal Species with Active UMEs

As noted previously, there are several active UMEs occurring in the vicinity of Park City Wind's survey area. Elevated humpback whale mortalities have occurred along the Atlantic coast from Maine through Florida since January 2016. Of the cases examined, approximately half had evidence of human interaction (ship strike or entanglement). The UME does not yet provide cause for concern regarding population-level impacts. Despite the UME, the relevant population of humpback whales (the West Indies breeding population, or DPS) remains stable at approximately 12,000 individuals.

Beginning in January 2017, elevated minke whale strandings have occurred along the Atlantic coast from Maine through South Carolina, with highest numbers in Massachusetts, Maine, and New York. This event does not provide cause for concern regarding population level impacts, as the likely population abundance is greater than 20,000 whales and has been stable despite the UME.

The required mitigation measures are expected to reduce the number and/or severity of planned takes for all species listed in Table 5, including those with active UMEs, to the level of least practicable adverse impact. In particular, they will provide animals the opportunity to move away from the sound source throughout the survey area before HRG survey equipment reaches full energy, thus preventing them from being exposed to sound levels that have the potential to cause injury (Level A harassment) or more severe Level B harassment. No Level A harassment is anticipated, even in the absence of mitigation measures, or anticipated or authorized.

NMFS expects that takes will be in the form of short-term Level B behavioral harassment by way of brief startling reactions and/or temporary vacating of the area, or decreased foraging (if such activity was occurring)—reactions that (at the scale and intensity anticipated here) are considered to be of low severity, with no lasting biological consequences. Since both the sources and marine mammals are mobile, animals will only be exposed briefly to a small ensonified area that might result in take. Additionally, required mitigation measures will further reduce exposure to sound that could result in more severe behavioral harassment.

In summary and as described above, the following factors primarily support our determination that the impacts resulting from this activity are not expected to adversely affect the species or stock through effects on annual rates of recruitment or survival:

- No mortality or serious injury is anticipated or authorized;
- No Level A harassment (PTS) is anticipated, even in the absence of mitigation measures, or authorized;
- Foraging success is not likely to be significantly impacted as effects on species that serve as prey species for marine mammals from the survey are expected to be minimal;

- The availability of alternate areas of similar habitat value for marine mammals to temporarily vacate the survey area during the planned survey to avoid exposure to sounds from the activity;
- Take is anticipated to be primarily Level B behavioral harassment consisting of brief startling reactions and/or temporary avoidance of the survey area;
- While the survey area is within areas noted as migratory and feeding area BIAs and designated critical habitat for NARWs, the activities will occur in such a comparatively small area such that any avoidance of the survey area due to activities will not affect migration or feeding. In addition, mitigation measures to shut down at 500 m to minimize potential for Level B behavioral harassment will limit the severity of any take that occurs;
- While the survey area is within areas noted as feeding area BIAs for large whales, the activities will occur in such a comparatively small area such that any avoidance of the survey area due to activities will not affect prey availability or foraging activities.
- The mitigation measures, including visual monitoring and shutdowns, are expected to minimize potential impacts to marine mammals.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the monitoring and mitigation measures, NMFS finds that the total marine mammal take from the activity will have a negligible impact on all affected marine mammal species or stocks.

Small Numbers

As noted above, only small numbers of incidental take may be authorized under sections 101(a)(5)(A) and (D) of the MMPA for specified activities other than military readiness activities. The MMPA does not define small numbers and so, in practice, where

estimated numbers are available, NMFS compares the number of individuals taken to the most appropriate estimation of abundance of the relevant species or stock in our determination of whether an authorization is limited to small numbers of marine mammals. When the predicted number of individuals to be taken is fewer than one-third of the species or stock abundance, the take is considered to be of small numbers. Additionally, other qualitative factors may be considered in the analysis, such as the temporal or spatial scale of the activities.

NMFS has authorized incidental take of 16 marine mammal species. The total amount of takes relative to the best available population abundance is less than 9 percent for NARW, less than 6 percent for common dolphin, less than 4 percent for humpback whales, and less than 2 percent for all other species and stocks, which NMFS finds are small numbers of marine mammals relative to the estimated overall population abundances for those stocks. Please see Table 5.

Based on the analysis contained herein of the activity (including the mitigation and monitoring measures) and the anticipated take of marine mammals, NMFS finds that small numbers of marine mammals will be taken relative to the population size of the affected species or stocks.

Unmitigable Adverse Impact Analysis and Determination

There are no relevant subsistence uses of the affected marine mammal stocks or species implicated by this action. Therefore, NMFS has determined that the total taking of affected species or stocks will not have an unmitigable adverse impact on the availability of such species or stocks for taking for subsistence purposes.

Endangered Species Act

Section 7(a)(2) of the Endangered Species Act of 1973 (ESA: 16 U.S.C. 1531 *et seq*.) requires that each Federal agency insure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any endangered or

threatened species or result in the destruction or adverse modification of designated critical habitat. To ensure ESA compliance for the issuance of IHAs, NMFS consults internally whenever we propose to authorize take for endangered or threatened species, in this case with NMFS Greater Atlantic Regional Fisheries Office (GARFO).

NMFS OPR is authorizing the incidental take of four species of marine mammals which are listed under the ESA: North Atlantic right, fin, sei, and sperm whales. On June 29, 2021 (revised September 2021), GARFO completed an informal programmatic consultation on the effects of certain site assessment and site characterization activities to be carried out to support the siting of offshore wind energy development projects off the U.S. Atlantic coast. Part of the activities considered in the consultation are geophysical surveys such as those proposed by Park City Wind for which we have authorized take. GARFO concluded site assessment surveys (and issuance of associated IHAs) are not likely to adversely affect endangered species or adversely modify or destroy critical habitat. NMFS has determined that issuance of the IHA is covered under the programmatic consultation.

National Environmental Policy Act

To comply with the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 *et seq*.) and NOAA Administrative Order (NAO) 216-6A, NMFS must review our action (*i.e.*, the issuance of an IHA) with respect to potential impacts on the human environment. This action is consistent with categories of activities identified in Categorical Exclusion B4 (IHAs with no anticipated serious injury or mortality) of the Companion Manual for NOAA Administrative Order 216-6A, which do not individually or cumulatively have the potential for significant impacts on the quality of the human environment and for which we have not identified any extraordinary circumstances that will preclude this categorical exclusion. Accordingly, NMFS has determined that the issuance of the IHA qualifies to be categorically excluded from further NEPA review.

Authorization

As a result of these determinations, NMFS is issuing an IHA to Park City Wind for conducting marine site characterization surveys off the coast of Massachusetts south to Long Island, New York, incorporating the previously mentioned mitigation, monitoring, and reporting requirements. The IHA can be found at *https://www.fisheries.noaa.gov/action/incidental-take-authorization-park-city-wind-llc-new-england-wind-project-phase-1-marine.*

Dated: July 19, 2022.

Shannon Bettridge,

Acting Director, Office of Protected Resources,

National Marine Fisheries Service.

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